SWEET POTATO CULTURE

for the

SOUTHERN PLANTER

By CLINTON CROW

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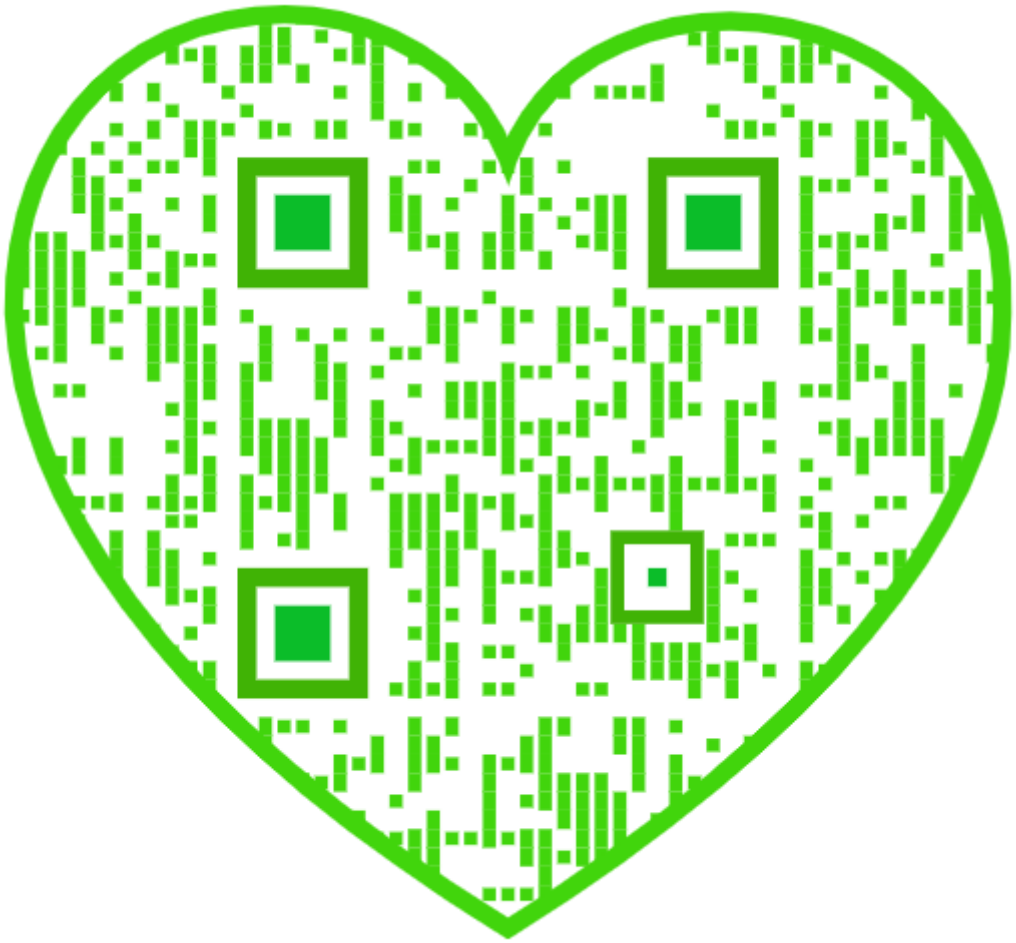

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SWEET POTATO CULTURE

——FOR THE——

SOUTHERN PLANTER

——BY——

CLINTON CROW

——ASSISTED BY——

Prof. C. W. WAUGHTEL, A. B.

Complete Instructions from Bedding to Harvesting the Crop, with Chapter on Commercial Sweet Potato Plant Growing in the State of Florida.

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DEDICATORY.

TO THE THOUSANDS OF HUSTLING PLANTERS ALL OVER THE SOUTH WHO ARE BREAKING AWAY FROM THE ONE-CROP SYSTEM, THIS BOOK IS RESPECTFULLY DEDICATED BY THE AUTHOR.

PREFACE

The courtesy of correspondents, the co-operation of the leading growers and shippers of the South, and our own knowledge of the sweet potato, acquired through years of re-search and study, enables us to set forth in this book all the information necessary to proper cultivation of this luscious tuber.

This treatise. if properly observed, will result in the greatest possible good to Southern farmers engaged in the sweet potato industry.

Intelligent culture is the only means of rendering any farming industry more profitable, and the great mass of our farming people know comparatively nothing of sweet potato culture, hence they fail. They fail in variety because they know not its adaptabilities; they fail in production because they know not their soil requirements; they fail in storage because they know not when to harvest, how to harvest, and how to store for sure keeping.

The aim of this book is to place at the farmer's command all information, in a practical manner, that will lead up to a more intelligent culture of his sweet potato crop.

The late Ben Hill said "That the farming industry was the greatest single industry in the world," and we verily believe the day is not far distant when the South will recognize the growing of her sweet

potato as her most important individual farming industry.

In collecting and arranging the matter contained in this work, we have considered well as to its source and reliability and can conscientiously recommend every suggestion offered on the sweet potato in this book as authoritatively correct.

Of course there are differences of opinion advanced by various authorities which are caused, not by an error of the brain but by local physical conditions.

We respectfully submit the book on its merits, which we trust will gain the confidence of Southern farmers and prove a blessing to the potato cause.

THE AUTHOR.

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CLINTON CROW

MR. E. V. BROGDON
Junior Member of the Firm of Crow & Brogdon.

INTRODUCTION

CHAPTER I.

THE SWEET POTATO.

The sweet potato with its long creeping vines, halberd-shaped leaves and projecting lobes, its purple blossoms and close-clustered seed, tells us very plainly it belongs to the Morning Glory family.

As to the native country of the Sweet Potato we know nothing definitely, however it stands to reason that the Sweet Potato originated in a country whose climate, soil and seasons are best adapted to the production of a well matured potato. It might have originated in one of our extreme Southeastern States or in the West Indies. Some authorities say Brazil is the origin while others say it originated in East India.

While the Sweet Potato is evidently a member of the Morning Glory family; yet, strange to say, it has never been known to grow wild as is so characteristic of the Morning Glory. So far as we know the Sweet Potato is purely domestic.

The Sweet Potato will produce fairly well in many sections of the country, but there are few places in all the world where it will mature perfectly —where the vines blossom yielding well-ripened seed-

lings, and where the potatoes are uniform in both size and color.

There is no crop grown in which there is so much confusion of names as in the growing of Sweet Potatoes. Every community puts a different construction on the word "Yam." We will go further in details when we reach the chapter on varieties.

The Sweet Potato, next to corn, is the most important commercial food crop. The chances are that in ten years it will be the most important.

The questions asked more frequently than any other in the growing of Sweet Potatoes are "How many bushels can be made per acre, and what will an acre produce in dollars and cents?" The yield per acre will depend on the nature of the soil, cultivation, climatic conditions and fertilizers. We have known successful potato growers who would one year make two to three hundred bushels per acre, and the next year would not make over fifty bushels. They would attribute the failure to the season.

Profits per acre can only be determined by the cost of the fertilizer material, amount paid out for plants, labor, and the number of bushels sold and the price received per bushel. Of course one must figure the value of those fed to the stock and those used at the table. This item alone of raising what we eat and consume on the farm is worth more to the South than we can estimate.

CHAPTER II.

ADAPTATION.

The Sweet Potato does its best in any locality where the soil is a light, porous, sandy loam, rich in humus and where the weather is warm for at least four months in the year.

The Sweet Potato does well in all the cotton states, as well as certain sections of the central west, Delaware and New Jersey.

The writer made recent experiments in New York, Michigan, Indiana, Ohio, Nevada and California with the Nancy Hall and Triumph. The reports thus far received are very satisfactory. There is no doubt but that in the sandy soils of many of the northern states the Sweet Potato would do well if tried and become a commercial crop to those sections; but, as we are writing our book for Southern farmers, we will not give any of the reports received from these sections in the north and west in which we have experimented.

We have never known a crop to fail on new ground well prepared and full of humus and potash, no matter what locality, provided the season and warmth lasted for a period of at least three and one-half months. As the value of the Sweet Potato and its adaptations to soil and climatic conditions become better known, it will be grown successfully in new areas in which it was thought impossible to grow Sweet Potatoes.

In concluding this chapter we wish to caution prospective Potato growers not to undertake to plant land deficient in humus; nor low, wet, soggy land,

in Sweet Potatoes. If a crop were raised on such land the quality would be very inferior and such potatoes would not sell on the market nor keep any length of time if banked or housed ever so carefully. There is so much good land especially adapted to the growing of Sweet Potatoes in every Southern state that it is not necessary to risk a crop on land not adapted to its successful growth.

CHAPTER III.

VARIETIES.

There is no phase of the sweet potato growing in which there is as much confusion as in the names of the different varieties. One of the questions frequently asked by the prospective grower, is "What kind would you advise me to plant?" The answer is easy enough if one knew what type of potato he liked or knew his markets.

There are two distinct types of the sweet potato, and the leading varieties of each type can be counted on the tips of your fingers. This may seem confusing when there are about one-hundred varieties listed in the United States. The explanation is that there are many of this number the same, assuming different names in different localities. A few years ago a man by the name of Baker ordered some Triumph plants from a Florida grower; and now the neighbors in Baker's neighborhood call it the "Baker" potato. And again another party ordered the Porto Rico from some dealer in Alabama, and now he and his neighbors call it the "Alabama Red." In another section of Georgia a minister of the Primitive Baptist church ordered a potato from some grower, and in after years the neighbors called it the "Hardshell."

The above examples are given to show how easily names originate.

The two types most usually used by writers on the subject are the "Jersey Type" and "Southern Yam." The former type includes such varieties as the Big Stem Jersey, the Southern Queen, West India, Yellow Jersey and the Triumph, while the Yam type consists of such varieties as the "Nancy Hall, Porto Rico, Red

Providence, Norton or Dooly Yam, Golden Beauty and the Red Yam." We might mention right here that the word "Yam" is used in a different sense in different sections of the country. By most people it is meant to include a distinct type; while others use it for a distinct variety. We might mention here that the Jersey type consists of all varieties of sweet potatoes of whatever name, that are light in color inside, with a dry, mealy texture. On the other hand, the Yam type includes all these varieties of whatever name, that are of a wet, juicy, sugary texture. Some authorities make three distinct types, including the large, course kind as a separate type which are ordinarily known as the stock potato. We prefer to give them in two types and then treat in classes according to use, namely: table varieties and stock varieties. The table varieties include all potatoes of either type that are of a fine texture; the stock varieties include a large, coarse, stringy kind, and chief among this class we might mention the Shanghai, California Yam, San Domingo, the Brazilian Yam, the West India Yam and Davis' Enormous.

As a usual thing the stock potatoes will out yield any of the other kinds, but the writer has tested several of the above named varieties and found none, including Davis' Enormous, that would yield as well as the Triumph.

We wish especially to impress upon the Southern grower the importance of raising these stock varieties for his own feed on the farm. It has been demonstrated in nearly all experiment stations of the different Southern states, that sweet potatoes, when fed with a grain ration, make an excellent feed for hogs, cows and horses.

All varieties will do better in certain localities,

contrary to the views of some growers who seem to think that any variety will do as well in one section as in another. This is all wrong. The writer has made several experiments and some varieties yielded five times as many potatoes as other varieties, though all were planted the same day under like conditions. The Georgia Experiment Farm has made like experiments with different varieties and has tabulated the results.

We would ask that any one wishing this information, drop a card to the above named institution for the bulletin treating on this subject.

It might be a good plan not to plant all your crop of one kind until you have found the one best adapted to your soil, location and climatic conditions.

DESCRIPTION OF VARIETIES.

NANCY HALL—The most popular potato in the South. Tubers elliptical in shape, much like the Dooly or Norton Yam. The skin is light yellow, the flesh deep yellow; cooks soft and juicy. A good keeper and a powerful producer. In some sections, however, this potato is inclined to blight. The vine is a short stubby bunch, with large thick round leaves, with a purple pip at the end of stem next to leaf, but no red veins on leaf.

THE GOLDEN BEAUTY—Skin light red; flesh a deep golden, and quality very good. Tubers oval, and inclined to be long. Yield is great. A very desirable potato. The vines are long, with a forked leaf, and red veins under leaf. Vines much like Triumph only longer, and again it resembles the Porto Rico only leaves not so regular.

RED PROVIDENCE—Similar to Nancy Hall in

every particular except the leaves are likened unto those of the violet. The yield is immense and the quality even better than the Nancy Hall. This potato will supercede the Nancy Hall in the next ten years.

PORTO RICO—Very Similar to Golden Beauty. This is a fine potato in texture and quality. The skin is pink. The potatoes are shapely and if grown carefully many of marketable size can be obtained. Vines are very long and dense. Leaves regular. It is free from blight.

RED YAM—(Sugar Yam, Georgia Yam, Pumpkin Yam.) Is a great yielder under favorable conditions. It is usually a late potato. It is an excellent market potato for the South. It is a good keeper. The vines are long, with forked leaf. Many farmers have bred this potato for years and will have no other.

MYERS' EARLY—Similar to Nancy Hall. The writer planted the two varieties side by side and could not tell the difference in yield, earliness, or quality.

TRIUMPH—This is a seedling, produced by Prof. T. K. Godbey of Waldo, Florida. It is all its originator claims for it. The tubers are oval, inclined to be long. The skin is a dirty white, and the flesh is a creamy white. Mealy in texture and free from strings. If enough marketable potatoes could be obtained this would be the variety to grow for the Northern markets. This potato is a wonderful yielder. It outyielded by 25 per cent seven different varieties in a test made by the writer several years ago. The vines are thrifty, leaves forked, with red veins under side, bunched and free from blight.

BIG STEM JERSEY—One of the best varieties of the Jersey type, and one of the earliest sweet potatoes known, has cream colored skin with light pink streaks;

oval shaped, and never cracks, has slender vines that run at great length. This potato is a great producer.

ENORMOUS—A stock potato, skin white, and flesh white cream. Texture rough. Potatoes grow very large. Specimens from 5 pounds to 12 pounds are not uncommon. Excellent for stock. It is also grown by those for the table who like a mealy, choky potato. Vines something like Triumph only longer.

YELLOW JERSEY—Skin yellow .flesh light yellow inside. Potatoes not large. Many of marketable size as wanted in the Northern markets. This is probably the potato that can be bred up to the requirements. Vines rather slender and not so thrifty looking as some of the Yam varieties.

CHAPTER IV.

BEDDING.

There are many ways of bedding out sweet potatoes in different sections of the South in order to grow plants. In the cooler sections, where the season is late and the sweet potato is grown for the early market, artificial heat is used. Some large plant growers have extensive steam heat appliances; some use the tile furnace system, while others use the old-fashioned hot bed method which is the simplest and most effective way of getting plants on a small scale.

The cold frame method of raising plants is extensively used all over the South by plant growers. The results are practically the same as with hot bed, only the plants are from ten days to twenty days later. In the warm sections of the South, and other sections where the plants are wanted for the general crop, beds are made in the open field without any artificial heat.

HOT BEDS.

As to the size of a hot bed, it is immaterial so far as results are concerned; however, it is well not to have any plant bed too wide. We would suggest five feet as a good width so that the plants can be drawn easily from the sides of the bed without getting on with the feet. The length of a bed is absolutely immaterial. We would suggest a south side location for the hot bed. Spade out the soil to a depth of twelve to fifteen inches to the size you want your bed; put the boards around the side until the back part of the bed is about eight inches higher than the front. This will give it a nice slope. In the bottom of this bed place at least a foot of fresh stable manure, prefer-

ably from that of the horse stable. Some very good authorities use two-thirds horse manure and one-third cow manure. Pack this manure well into the bed, then cover with a depth of about three inches with sand or porous soil; level the bed, then place the seed potatoes on top so that they will be about one-half inch apart. This is done so that if a potato should rot that the disease will not spread over the whole bed. When the potatoes are thus laid on the sand, then cover to a depth of from one to two inches with good sandy soil, or porous loam if the sand cannot be had. Some very successful growers in the sections where it can be had, go to the woods where logs and trees are rotted and get the soil from along side these logs and place it on top of the potatoes instead of the sand. Our experience has been that the potatoes will be less apt to be attacked by any diseases, if sand is used.

Keep the sash on the beds until the weather is warm, ventilate with cracks by propping the sashes, being careful not to get too much cold air. Every day the bed should be examined to see that it is not too hot. It might be well to use a thermometer for this purpose, and whenever the heat should rise to about 90 degrees Fahrenheit, give the bed a little more air. If the heat still continues to rise, make tiny little holes to the potatoes about twelve inches apart, and in a few hours this will have the desired results.

Very little water should be put on the hot bed during the first ten or fifteen days. In fact, our experience has been to use no water at all as it is apt to make the bed too hot. When the plants begin to make their appearance we give them more air; and during the warm part of the day, while the sun is shining, we take the glass off entirely. As the plants

become greener and accustomed to the outside air. we leave the sash off altogether, except on cold days. This process will harden the plants. When they are six inches high we draw them from the potatoes and plant them in the field. If the ridges are not prepared we heel the plants out in a good place, as described in another chapter, until they are wanted.

The question is often asked at what time we should make our hot bed in order to get plants. This depends entirely on when you want your draws. We generally make an allowance of about twenty-five days, as in that time, if the bed is properly constructed, plants can be drawn from it.

Another question often asked is, "How large shall I make my hot bed in order to get plants enough for an acre?" Such a question cannot be answered definitely as this depends on both the size and variety of the seed. The smaller the potato bedded the more space they will take up to the bushel on the bed; then again, some varieties will yield twice as many plants as others. One plant grower says that one peck of good seed, carefully bedded, makes him plants enough to give a yield of fifteen bushels. This, of course, is very indefinite. Another grower says that thirty-five bushels of good seed well bedded, gave him sixty-thousand plants. Of course, as we have just said, it will all depend on the variety and the size of the seed.

COLD FRAMES.

The Cold Frame method of raising plants is extensively used all over the South by truckers and plant growers. The results are practically the same as with a hot bed, only the plants are from ten to twenty days later. The same material is used in fitting up a cold frame as in that of a hot bed, the only difference

being that cloth of some kind is used instead of glass, and in some sections no covering at all is used.

OPEN FIELD BEDS.

The majority of the plant growers use this method. See the illustrations given in this book showing trenches made in the open field, and notice the seed beds. In this method no boards are used, and many use no stable manure; however, even for this method, a layer of three or four inches of stable manure would be a decided help in warming up the soil and acting as a tonic to the plants and thus hasten their growth ten to fifteen days.

In selecting a site for your cold frame, or open-field beds, be sure to get close to a water supply. A week of dry weather may cost you a loss of many dollars.

SELECTED SEED.

There is an old saying that "Like Begets Like." Applying this principle in sweet potato growing, is it not reasonable that small, deformed and diseased potatoes will produce an inferior crop? We believe that the sweet potato, being almost immune to diseases, that we never need fear of any dangerous diseases if care be taken in seed selection. The same care in selecting for seed should be used as in grading for the markets. (See chapter on Marketing).

We wish to urge upon every farmer, building at least one hot bed; he ought to have two or more. Think of the many good things you can raise in the winter months with a couple of hot beds, few cold frames and a winter garden. The grocery bill can be cut in half.

The following articles on bedding are of interest because they are backed by experience:

"HOW I BED SWEET POTATOES."

By W. T. Brittain, Whitesburg, Georgia, March 2, 1915.—Southern Ruralist

"As it is time to bed potatoes, and I see so much about how to make a hot bed, I will give the readers my plan and never have failed to get slips in 12 days. First dig out the size bed you want, 8 inches deep, put 6-inch boards around, fill up with pine straw, pack down tight, then put 4 or 6 inches of fresh stable manure on that; then pack it. Go to the woods, around old logs, and get the light dirt and put it about 1½ or 2 inches on manure, then put potatoes close but not let them touch each other. Press them in the dirt, then cover with same kind of dirt, and just get them covered, and when the potatoes begin to slip, cover about one inch deeper. Keep rain off bed by covering with plank water-bed. After slips come up, take plank off when not raining."

We quote another article by J. R. Davis, of Bartow, Florida, one of the greatest truck growers in the South:

BEDDING THE SEED.

"The methods practiced in bedding out the tubers for slips are different in the northern area from those practiced in the South. As this work is applicable only to operations in the South I shall not discuss the steam-heated appliances used in the extreme area. For the extreme southern area very little stable manure is required and sash may be dispensed with altogether. If artificial heat is desired light canvas can be treated with linseed oil and drawn over the beds so as to exclude as much air as possible and by this means the temperature may be raised as much as 20 degrees. For the southern portion of the Gulf states I would advise opening out beds six feet in

width by scooping out about two inches of dirt, running the beds east and west. Fill the bottom of this bed with two to four inches of stable manure. Place the seed potatoes directly upon the manure allowing about one inch between each potato. Then cover with just enough dirt to hide the tuber. Then lay over the bed a piece of poultry wire with 1½ inch mesh and six feet wide. When the sprouts begin to push through the soil, throw on two inches more of dirt. The shallow covering, by keeping the tubers near the surface, induces early sprouting and thereby minimizes the danger of rotting before sprouting begins. The poultry wire is used for the purpose of preventing the potato from being pulled up while drawing the slips. A light coating of pine straw will answer the same purpose as the poultry wire. If it is desirable to use artificial heat, light canvas treated with linseed oil may be drawn tightly over the beds as soon as they are prepared. Where the canvas is used it will be necessary to use a ten-inch plank around the bed with cross pieces eight feet apart and small wire strung up on these to support the canvas. The covering can be sewed up in 100 or 150 feet lengths and rolled up on a pole when it is desirable to remove it. This canvas also furnishes a protection against late frosts, which sometimes occur. When the slips have attained a length of seven or eight inches they should be drawn out allowing others to take their place. All grass and weeds should be kept pulled out and the bed kept well watered, using water after each pulling of slips. For areas further north, where it is colder, it will be found necessary to use more stable manure, but oiled canvas may take the place of sash in almost any territory in the South where sweet potatoes are grown. For more northern localities 8 to 12 inches of fresh stable manure should be trampled

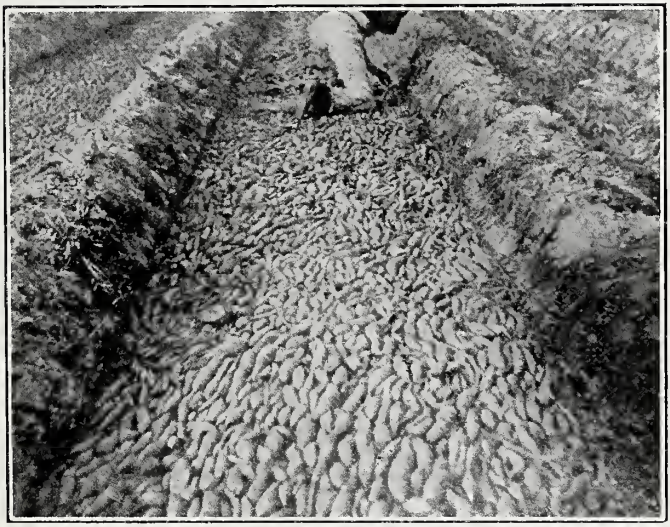
into the bottom of the bed and covered with about two inches of good top soil. The oiled canvas or sash, as the case may be, should then be placed over the bed as tightly as possible and allowed to remain until the temperature reaches about 80 degrees at midday. When the temperature reaches this point the potatoes should be placed as before directed and the bed finished in the same manner as described. Then give the bed a light wetting and cover with sash or cloth. Thermometers should be relied upon to indicate the temperature, which should never rise above 80 degrees at midday. In such an event the cover should be removed temporarily in order to reduce the temperature. Where sash are used they should always slope to the south, and the north side of the bed should be six to ten inches higher than the south. The time when the seed should be bedded will depend of course on the latitude in which they are planted. Usually they should be bedded about four weeks in advance of the time of planting. The potatoes should be bedded on a warm bright day and not allowed to become chilled. Several days prior to making the first pullings the covers should be removed in order to harden up the plants. This should be done by taking off the covers for a few hours the first day and giving a little more sunshine each day in order to harden them up gradually.

SELECTING SEED.

The growing of sweet potato slips for commercial purposes is becoming quite an industry in the South. Many millions of plants are shipped each year from Florida into states further north. The growing demand for Florida grown slips is perhaps due to the fact that the Florida climate is favorable to this crop and the plants grown there produce more

From Farmers' Bulletin 107, Georgia Experiment Station.

Figure No. 4—Varieties of Sweet Potatoes, 1913—1. Vineless Bunch; 2. Triumph; 3. Georgia Yam; 4. Jersey Yellow; 5. Enormous; 6. Jersey Red; 7. Providence; 8. Improved Golden Beauty; 9. Porto Rico Yam; 10. Southern Queen; 11. Buck Yam; 12. Big Stem Jersey; 13. Pumpkin Yam; 14. Golden Beauty.



Bedding Sweet Potatoes

Mr. Matchett's Nancy Hall Sweet Potato Beds at Pinecastle, Fla.

than those grown further north. As the writer has been in this line of business for many years, and has had a good opportunity to gather some good information, it might be well to say something in reference to the selection of seed. It is almost a universal practice among both growers and dealers to select the smallest specimens from which to grow plants. This practice is directly opposed to the laws of nature, and why it is the universal practice I am unable to say. It is utilizing the small potatoes which are unsaleable, and this is the only reason that can be given for the custom. There is no question about the degeneration of any plant which is continually propagated from the smallest and most inferior specimens, and the rule will apply to any plant. In my opinion this erroneous practice is accountable for the "running out" of potatoes and unfruitfulness which we often hear about.

In selecting seed each year I make it a practice to select all the largest and best shaped specimens and separate these from the smaller potatoes. Each one of these large potatoes is then split in half and examined. If it does not show the required color or shape it is thrown aside. If it comes up to standard of color, shape and texture, it is taken to a seed stock bed and bedded separately. From this seed stock bed all my next season's planting are made and by careful selection I have greatly increased the yield as well as quality, and I would recommend it to all who wish to grow potatoes for profit. In 1911, I gathered from the "Golden Beauty," a yellow flesh yam, 756 bushels per acre. This large yield was attributable to a large extent to careful breeding. In bedding stock for seed the large potatoes should be split in half and placed under sash or oiled cloth with cut side up and allowed to dry for a week before bedding out. This

drying of the cut surface has a tendency to prevent rotting. When they are bedded, however, they should be placed cut side down."

CHAPTER V.

SOIL PREPARATION.

The preparation of the land is a very important step in the growing of nice sweet potatoes. Most authorities say plow deep, even subsoil. My experience is that in order to grow the best sized potatoes for market, do not plow deep, as the potatoes are inclined to get too long. This, however, is not a serious drawback if you raise for your own use and for stock purposes. But it is the fancy trade we must aim at if we ever wish to make sweet potato growing a commercial success in the South.

The Jersey and Delaware growers carefully grow their potatoes so as to get as many oval and gradable potatoes as possible. Then, before marketing they make several grades of "choice," "extras" and "primes" This is probably the reason that they have the monopoly in the Eastern and Central markets.

The soil should be thoroughly pulverized. If you put your fertilizer on broadcast it must be well worked into the soil.

Just as different kinds of fertilizer effect the color, texture and flavor of the sweet potato, so does the preparation of the soil effect the size and shape of the potato. The writer has proven both these facts to his entire satisfaction by repeated experiments. The Georgia Experiment Station has also demonstrated both these facts in recent experiments, and in their Bulletin No. 107 give exact conditions of the various plats in which the experiments were conducted relative to determining both the effect of fertilizers on

size, and smoothness as well as upon the flavor and texture of the potato.

We give the following article by R. T. DeBerry, Assistant Commissioner of Agriculture for West Tennessee. In the first paragraph he substantiates our claims:

"Preparation of the soil in the field need not necessarily be very deep, but should be very thorough. As most markets demand a short, chunky potato, the land need not be plowed to a depth of more than four to five inches, a greater depth of plowing tending to produce long, unsightly potatoes, but this broken area should be harrowed and dragged until it is as fine as meal if possible. This can be done much more easily and rapidly before any plants are put out than afterward, and where this is done as it should be the labor necessary in cultivating the crop is reduced to a minimum, not much cultivation being needed except to keep down weeds and grass and keep a dust mulch on the surface until the plants make vine enough to cover the surface.

The grower must, of course, use his own judgment as to what tools will best accomplish this purpose. If the ground where the potatoes are to be grown is well filled with humus, use 500 pounds per acre (if desired) of a fertilizer containing 2 per cent ammonia, 8 per cent phosphoric acid and 6 per cent potash. On land not well filled with humus, or where the potatoes are to be dug and sold without storing, the ammonia should be increased to 4 or 5 per cent in the fertilizer. On lands where the accumulation of nitrogen from legumes or from their having been used as pastures is likely to be sufficient, this element may be omitted from the fertilizer and a potash and acid phosphate mixture alone used. Stable manures should

never be used for either Irish or sweet potatoes if the application can not be made long enough before starting the crop that the manure will have become decayed and thoroughly incorporated with the soil, as it has a tendency to produce vines at the expense of roots or tubers, and its use also promotes the development of fungus diseases which may seriously damage the yield and quality.

"One point which I failed to mention was the method of handling the plants when transferring to the open ground. We usually either dip the roots of the slips in clear water, drop and set out as quickly as possible, or we make a puddle of thin mud and dip the roots in this and then set out, always pressing the dirt firmly to the roots to insure their living.

"When you have a lot of slips ready to take off of the bed, but are not ready to set them in the field, they should be pulled off and heeled out in fresh, moist earth, care being taken to spread the slips out thinly so that air can circulate freely among them. Otherwise, your slips may rot off. If the slips are properly heeled out for a few days, they will usually live better than if transferred directly from the bed to the open ground."

RIDGES.

It is not advisable to throw up more ridges or rows than used at one planting. It has been my observation that plants set into the rows recently thrown together grew off better and more thrifty from the start and made a better yield. It seems the dirt settles with the plant and acts as a tonic. A certain grower in Florida always pulls up the plant or cuttings, if they fail to get a good thrifty start.

This grower says that this lesson cost him ten thousand dollars.

There is considerable difference of opinion in regards to high and low ridges. In some sections the growers make the ridges from a foot to a foot and a half high. These growers claim the potatoes are more easily harvested and that the yield is better. In other sections the plants are set on a level, and good crops are reported. In some sections of the South, a ridge or row is not used at all. The grower takes his field and plants in hills slightly elevated. The yields reported from these growers are very good.

The writer made an experiment a few years ago on high and low ridges. The yield was practically the same. The soil was a light, porous sand and the potatoes followed the commercial fertilizer and were harder to gather on the low ridges than those on the higher ridges. A later experiment convinced the writer that a ridge about 8 or 10 inches high, unless the ground is low and subject to overflow, is the ideal ridge. This is an especially desirable ridge for a heavy soil. For light, sandy land, deficient in humus, we would surely recommend the ridge at least a foot high. The best thing, however, for each planter, is to follow the best advice obtainable, study conditions, nature of his land, the varieties adapted and keep track of his observations with pencil and book. In this way he will soon learn the best methods, the best potatoes, and the local adaptations of varieties and will certainly become a successful grower of Sweet Potatoes.

The following article on Soil Preparation is taken from Bulletin No. 107, Georgia Experiment Station:

"The best results are obtained in well pulverized

soil. This is had by breaking the land broadcast to the depth of eight to nine inches with a two-horse disc plow. Following this, the land should be harrowed with a disc harrow and laid out into rows four feet apart. Then, after the fertilizers are applied, the land should be bedded out into large beds by running four furrows, two rounds to each row, with a large one-horse turn plow. Following the bedding, a one-horse Acme harrow should be run along the top of each bed. The mule should walk on the center of the bed and the man should ride the harrow. In this way, the harrow crushes the clods of soil and tears down the bed, leaving it well pulverized and only a few inches high."

CHAPTER VI.

FERTILIZERS.

A very important item connected with successful Sweet Potato Growing is that of Fertilizers. While some experiments show no appreciative effect on the yield, we are convinced by actual experience that no piece of land will produce a maximum yield of potatoes without fertilizers.

There are two kinds of fertilizers in common use, being Domestic and Commercial. Many growers show the best results are obtained by using a well balanced commercial fertilizer. We agree with them, but the cost is an item to be considered for it must be borne in mind that a large crop of the tubers is not always dependent on fertilizers alone. The weather conditions, time of planting, soil preparation and mechanical condition of the land all have an important bearing on the yield of the crop.

We consider those who have plenty of stable manure very fortunate. In the use of stable manure we would recommend 100 pounds of acid phosphate to each two-horse load of manure. This may be applied at the rate of eight or ten loads to the acre broadcast at least thirty or forty days before planting time. It should be well disced in the land, if well rotted; if not well rotted it should be plowed under. To every acre of potatoes thus planted 50 to 75 pounds of potash should be strewn in the middle of the rows, just before the vines meet, as this will increase the yield and the quality of the potatoes.

One grower in South Georgia reports that he used a compost made from wiregrass turf, pine need-

les, acid phosphate and black, mucky soil taken from the swamps and along creeks. This work can be done in winter or at odd times when at leisure. In this way he gets his fertilizer with a small outlay of money. The results are excellent. He uses about 75 pounds of sulphate of potash, strewn along the middle of the rows when the vines begin to run, and rakes it in with a garden rake. To those who want to try this cheap and efficient fertilizer we will give his method: Build a square pen, out of slabs or poles about 12 feet square, in some handy place back of the barn. In the bottom of this pen he puts two or three loads of pine needles and turf; on this he strews 25 pounds of acid phosphate; then on top of this he spreads two loads of muck, and so on at intervals until the pen is filled to a height of six feet. When the time comes to use the compost he opens one end of the pen and chops finely with a hoe and loads on a wagon, and applies at the rate of six to eight loads per acre in shallow furrows; he then throws the ridges to this furrow.

In these days of low priced cotton and a time when the farmers of the South are experimenting with diversification of crops, we cannot emphasize too strongly this method of making your own fertilizer and thus keep your money at home.

Another method of fertilizing that costs very little money and one which brings good results, is that of "cow-penning." Of course this method presumes that the farmer owns a herd of cattle, as is common in South Georgia and Florida. A temporary fence is built around a small piece of land and cows penned on this piece every night for two or three weeks, when the cattle are moved to an adjoining plat and this piece is then "scootered" and left lay for awhile,

then plowed, ridged and planted. Each successive plat is then treated until several acres are planted, depending, of course, on the size of his herd and the time he begins to pen his cattle. We know of certain new-ground plats thus cow-penned to yield as high as 600 bushels per acre without the use of any commercial fertilizer.

Some successful growers strew trashy hay, broomsage, oak leaves, pine needles, turf, etc., along in a row and then ridge on this, and then plant on top of this ridge. They use a little acid phosphate and potash. The results are very good.

Until, however, the South becomes a stock-growing country the majority of the potato growers will have to depend on commercial fertilizers.

We wish to call attention to the importance of home mixing of commercial fertilizers. There is no magical secret about it, as some farmers suppose; it is, however, a simple method of protecting him from the unscrupulous fertilizer agent. All that is needed for the successful mixing of fertilizers are the raw materials—a tamp, a shovel, a wagon bed or floor of some shed, and a little "elbow grease."

To all of those who wish to do their home mixing we would ask them to send a postcard to Coe Mortimer Co., Charleston, South Carolina; Independent Fertilizer Co., Jacksonville, Florida; German Kali Works, Atlanta, Georgia, and the Nitrate of Soda Propaganda, New York City, and ask for any material they have on home mixing.

It is a good plan for a number of the farmers in each neighborhood to group together, where farm organizations do not already exist, and order the materials to be mixed in car lots. There are a number of

dealers in the large cities who are always glad to sell these materials direct to the farmer. In mixing their own fertilizer the farmer saves from ten to fifty per cent on cost. For an example, let us figure out a formula which covers the kind of 8-2-2 fertilizer, in which the agent sells the farmer from $20 to $27 per ton, depending on the locality and the competition. Such a fertilizer can be made by mixing the following materials:

1,142 pounds 14 per cent Acid Phosphate.
317 pounds 12 per cent Kainit.
400 pounds 7½ per cent Cotton Seed Meal.
141 pounds Filler.

The cost of these materials vary in different localities. Any one, however, can figure the cost to run from $15 to $20 per ton. From these figures it can readily be seen the saving the farmer makes in mixing his own fertilizers. We will give another example of a higher grade fertilizer which agents ask as high as $50 per ton. The following materials are used in this formula:

1,000 pounds Acid Phosphate 16 per cent.
112 pounds Nitrate of Soda 18 per cent.
472 pounds Dried Blood 17 per cent.
417 pounds Sulphate of Potash 48 per cent.

This makes a fertilizer analyzing 8 per cent Phosphoric Acid, 5 per cent Ammonia, 10 per cent Potash.

This material, in normal times, will cost from $35 to $40. Of course, during the war in the old country the potash and dried blood have advanced to abnormal prices. It is a question whether a high grade fertilizer, like the one just given, is not the cheapest food material for the sweet potato in the end. In

land well supplied with humus we would advise from 600 to 1,200 pounds per acre; and on sandy lands, deficient in humus, we would not recommend over 400 pounds of this high grade fertilizer to the acre.

One of the largest growers of sweet potatoes in the South uses from one to two tons per acre of a high grade fertilizer, analyzing 7-4-8. This grower applied half broadcast before the ridges were thrown up and reports a yield of over 500 bushels per acre.

Any one of the following formulas will give good results:

1,000 pounds Acid Phosphate.
250 pounds Nitrate of Soda.
675 pounds Cotton Seed Meal.
300 pounds Sulphate of Potash.

This makes an ideal fertilizer and is recommended by the Georgia Experiment Station. The following is also a good formula:

900 pounds of Blood and Bone.
800 pounds Acid Phosphate.
300 pounds Sulphate of Potash.

This analyzes approximately 7 per cent Phosphoric Acid, 3 per cent Nitrogen and 8 per cent Potash.

This formula is recommended by the Florida Experiment Station and has given excellent results.

Where cotton seed meal is cheap and the potatoes are raised for early market, we recommend the following formula:

825 pounds Cotton Seed Meal.
775 pounds Acid Phosphate.
400 pounds Sulphate of Potash.

The following formula shows a very good fertili-

zer. analyzes approximately 3-6-10 and contains the following materials:

333 pounds Nitrate of Soda.
857 pounds Acid Phosphate.
416 pounds Sulphate of Potash.

This makes a total in pounds of 1,606. You will see that there is less than a ton in this mixture, yet it contains all the elements necessary in a good fertilizer.

In order to make a ton a manufacturer puts in 400 pounds of ground cinders, road dust, or any other material that will serve as a filler. This, to be sure, does not harm the fertilizer; but how about paying freight on the filler?

We hope that the above examples will enable any one to figure out his own formula and thus mix his own fertilizers and save the extra money that is given to the agent. The kind of fertilizer, as we have before stated, to be used per acre, depends on the physical condition of the soil; also upon previous crop grown. We might add right here that there is no crop grown that is so sensitive to the benefits of a crop rotation as that of the sweet potato. No sweet potato crop should be grown twice in succession on the same piece of land. The best crop preceding the sweet potato crop is that of cow-peas, velvet beans or any other legume.

Before closing this chapter on Fertilizers, we wish to call attention to Lime—not as a fertilizer but as a conditioner of the soil. On poor land, it assists in releasing the potash from the soil and thus make smooth potatoes; on new ground it sweetens the land. Where the freight is not too high we recommend two tons of

ground lime per acre broadcast; and where the freight is high use burnt lime at the rate of 1,000 pounds to the acre. All lime should be applied the year before planted to potatoes.

Wood ashes from hard wood—not pine or cypress—are a good fertilizer in themselves and will give good results if applied at the rate of 1,000 to 2,000 pounds per acre.

All fertilizer should be applied at least ten days before planted or set out. Some growers throw up a small ridge with a small plow, then strew the fertilizer on this ridge; then finish throwing up the row with a large plow. Many of the large growers have a fertilizer attachment to their disc harrow and throw up a row and distribute the fertilizer at one operation.

The following is a method of applying fertilizer by C. K. McQuarrie, Assistant Superintendent Farmers' Institute, Gainesville, Florida:

METHODS OF APPLICATION.

"It is a well known fact that the root system is the foundation on which a crop is made, and the methods of application of the fertilizer determine to a great extent the vigor and number of the feeding rootlets of a crop. Fertilizer applied in furrows, drills or hills tends to make the soil streaked or spotted in its fertility, consequently curtailing the root system because the roots of the crop are not apt to spread through all the soil as they would do if the fertility was uniformly distributed. Therefore it is recommended that, on all well-prepared soils plowed to a depth of six inches or more, the fertilizer be broadcasted on freshly prepared land and worked into the soil by means of

harrow, weeder or cultivator, a few days previous to planting the crop. On soils deficient in humus, and plowed a few inches in depth, the application of the fertilizer had best be in furrows; but in such a case the quantity used must be small and the crop will be of a corresponding degree, thus making the cost more per bushel, for the labor required is the same in both cases."

CHAPTER VII.

TRANSPLANTING.

THE TIME TO PLANT.

The time to plant depends on whether you want to grow for early markets or for home use. If you grow for the early market, the plants can be set out in the rows as soon as the danger of the frost is over. If set too soon, and the ground is still cold and the nights cool and damp, the plants will not do well and they had better be left in the seed beds. Allow me to repeat that the Sweet Potato is primarily a plant of the tropical country and does not like cold weather. There is nothing like a frost-proof Sweet Potato plant. As to the habit and origin of the Sweet Potato, we ask that you read again the chapter on "Introduction." for it is truly, as a writer on Sweet Potatoes expresses it, "A Child of the Sun."

The writer has frequently received requests from the mountainous sections of the South for the frost-proof sweet potato slips. Some unscrupulous plant grower had gone to the extreme in order to sell his plants, a method entirely uncalled for and unnecessary as all reputable plant growers have always sold their plants without misrepresentation.

Many experiments made by the writer proved that the best crops are made from plants set out from May 10th to June 25th. We have, however, received many reports from growers who made large crops from plantings as late as July 28th; and one grower states the best potatoes he ever made was planted the first week in August. Of course, this grower lived in

From Farmers' Bulletin, 324, U. S. Department of Agriculture.
Figure 13—Transplanting Machine in Operation.

From Farmers' Bulletin, 324, U. S. Department of Agriculture, Figure 11—Setting Sweet Potato Plants by Hands.

South Georgia where the warm season is longer than in the northern and mountainous sections of the cotton states.

The man who becomes a successful plant grower will soon learn when to plant—how to plant—kinds of fertilizers—kinds of soil, and how to harvest and store successfully, if he is careful in his observations.

We would recommend that every farmer who grows Sweet Potatoes, or any other crop, keep a record of what he does on the farm. In this way he knows exactly at the end of the year what his crop has cost him per bushel, or per acre; and he also will be able to find the mistakes he has made the previous year. The most successful farmers of any section of country, are those who keep a daily record of their work.

TRANSPLANTING.

The yield of your crop will depend largely on the start the plants take when first set out. The essential thing in planting the slips is to get the roots in contact with moist dirt, firmly pressed about the plant.

A half-pint of water should be put to each plant unless it is raining at the time of planting. A good test to see if the plant is properly set is to take hold of a leaf and pull steadily; if the leaf tears between the thumb and finger without pulling the plant loose, the slip is well set.

The rows should be three feet apart in high and dry land, and from a foot to a foot and a half high; but in low, undrained land the rows should be five feet apart, and from two to two and a half feet high. In fact, no low land, as we have cautioned in a pre-

vious chapter, should ever be planted in Sweet Potatoes. This precaution is taken so as to drain off all the water during a heavy fall of rain, or prolonged rainy weather. The young potatoes must never be in stagnant water at any period of their growth.

If you wish to make large potatoes, set the plants eighteen inches to two feet apart on the rows. If you want to make medium-sized potatoes, plant them from ten to fifteen inches apart on the rows. An acre planted in this way will support about 9,000 slips.

Most truckers and farmers order their plants from growers who make a business of supplying slips for the planters. And where the early potato is wanted, and in localities where the potato is hard to keep, this is probably the best plan.

Now, a few words in regard to the treatment to be given your plants when taken from the express office. If they are already rotten and black from being too long in transit, refuse them. If only the leaves fall off easily and the stems are stout and green, they are all right and will grow off just as well as if they were nice and green with all the leaves on them. If they look reasonably good, take them out of the crates as soon as possible; dip the roots into water and then heel into the ground, in a shady place, until the next day, unless it be raining, when you can plant them at once. Be sure and separate the plants so as to allow the air to penetrate freely.

We have always found it pays to use a little water when planting, no matter if there is a season or not, as it will give your plants a sure start. Some up-to-date truckers make a mixture of cow manure and clay into a liquid and into this they dip the roots before they set them out, and then add half a pint of

water to each plant, and as a result they get new potatoes in the course of sixty days, and you wonder why. You wonder where he got his slips; you order your plants next year from the same place and your potatoes are as late as usual.

Where the ground is heavy, a hole can be made with a stout lath sharpened to a flat point. The plant is dropped into the hole and closed with the hand or heel of the foot. Some truckers in New Jersey and Delaware use wooden tongs, so as to scarcely bend their back in planting. They grasp the plant by the root and push it into the hole made by the sharp lath and firm the dirt with a kick of the foot.

Where the ground is soft, most planters use a cane; rounded out at the bottom and lined with canvas or leather, and the plant or cutting is laid on the row by a dropper, and the planter presses his cane on the plant hard enough to set the plant or cutting, and finishes with his foot.

By a little practice, one can become expert with these common, homely tools and plant an acre per day without it becoming tiresome.

Where large acreage is planted it might be well for the grower to investigate the machinery planters operated by horse power as used by the big Delaware and Jersey truck growers, and lately adopted by some of the big Florida growers.

The following method is used in making the ridges and planting the crop, by J. R. Davis, one of the largest and most successful plant growers and truckers in the South.

"For all soils where slips are to be used I would advise making the rows just in advance of planting.

Many growers prepare the land and wait for a rain to set. This method perhaps saves some expense in setting the plants but the plants rarely ever start off so well as when a little water is used in planting, and the cutting of expense at planting time often proves to be false economy. While I would not advise setting while the ground is very dry, I would prefer to set several days after a rain. Plants of all kinds start off better when planted in loose, freshly prepared land, perhaps owing to the fact that more air is supplied to the roots. Where irrigation is used lay off one row straight with bull tongue. Then take a 14-inch solid sweep, running one furrow to each row, making the ridges 30 inches apart. This throws up a flat ridge about 4 inches above the level. A two-horse disc harrow with the two outside discs removed makes an excellent implement for this purpose and where the ground has not been sufficiently pulverized perhaps this implement is preferable in laying off rows. Where irrigation is not used an ordinary 18-inch disc harrow with three horses is a good tool for making the rows, which should be 3½ to 4 feet apart. Where land is abundant and the growing season long the latter distance is to be preferred. Presuming that the land has been fertilized and prepared as above indicated, we now come to setting the plants. Where the irrigation is supplied by pipes overhead or underground, water for setting may be drawn from a tank by using valves at convenient distances. This is a very economical method of obtaining water and all pipe systems should be provided with this convenience. Taking an ordinary hoe handle, making a round point on one end, place this in the hand of a careful man and let him go along just behind the bedding plow and punch a hole about six inches deep and eighteen inches apart. Two hands can easily keep up with one

plowman, and the plow should never get more than a few rows ahead of the hole makers. Let boys follow placing the plants in the holes thus made. After the droppers comes a man or boy with a bucket of water and a three pound tomato can with rim pulled off and one side bent to a V shape. Pour about one-third pint of water so as to strike the edge of the hole. This washes some dirt over the root of the plant and the job is finished.

For twenty-five years I have tried all methods of plant setting machines, and have found the above outlined plan the best and most economical of all. In case of approaching cold weather, plant setting should be deferred until the ground becomes warm. For irrigated lands set 30X18 inches, requiring 11,760 plants per acre. For non-irrigated set 48X18, requiring 7,280 plants per acre.

I wish to call particular attention to the fact that whether plants or vines are used for planting conditions and treatment should be such as to insure their starting off promptly. This is especially true in the case of vines. These are usually set after good rains, and if the weather immediately following should be unfavorable to allowing them to make root within a few days, they should be pulled up and replanted with fresh vines. I learned this fact at a cost of about ten thousand dollars. Always try to set vines during rainy, damp weather. The atmospheric moisture is very favorable to their taking root promptly.

The above article is used by permission of the author on "Sweet Potato Growing in the South."

The following from Bulletin 107, issued by the Georgia Experiment Station by H. P. Stuckey, gives

the method, the time of planting as practiced at that institution.

TIME OF SETTING POTATO PLANTS TO THE FIELD.

For early potatoes, the draws should be set to the field as early as possible in the spring after the danger of frost has passed. But where the largest possible yield is sought, the very early plantings are not to be recommended. The time of planting to secure the heaviest crop varies from season to season and with varieties.

During the past few years this station has conducted experiments along this line with the Pumpkin Yam variety. The results are given in the following table. The plats were two rows 209 feet long:

TABLE 1.

EFFECTS OF DATE OF PLANTING ON YIELD OF PUMPKIN YAM POTATO.

DATE PLANTED	Lbs. Marketable Potatoes	Lbs. Small Potatoes	Total Pounds Potatoes
April 23, 1910	141	71	212
April 31, 1910	160	67	227
May 12, 1910	250	55	305
May 24, 1910	182	56	238
June 1, 1910	259	73	332
June 11. 1910	412	63	475
June 21, 1910	275	43	328
July 1, 1910	314	54	368
July 15, 1910	44	14	58
July 30, 1910	0	4	4
May 6, 1911	410	238	648
May 16, 1911	506	271	777
May 26, 1911	241	136	377
June 5, 1911	258	148	406
June 15, 1911	203	96	229
June 25, 1911	185	97	282
July 5, 1911	109	88	197
July 15, 1911	146	85	231
July 25, 1911	23	12	35
May 20, 1913	346	88	434
May 30, 1913	272	86	358
June 6, 1913	212	70	282
June 19, 1913	244	62	306
June 28, 1913	0	178	178
July 7, 1913	0	106	106
July 17, 1913	0	34	34
July 28, 1913	0	0	0

From this data it would seem that the time of the heaviest yields—May 16th to June 11th for the three years—has a variation of twenty-six days. This shows conclusively that year in and year out there is no one best date for planting sweet potatoes. However, the data shows that light yields may be expected in this latiude from plantings made after about July 1st. The latter half of May is about the best time to plant the Pumpkin Yam type of potato where yield is the primary object to be considered.

METHOD OF SETTING POTATO DRAWS.

The use of a transplanting machine was impracticable in our work, as the potatoes were grown in plats of limited area for experimental purposes; therefore, the plants were set by hand. If the soil was sufficiently moist at the time of setting, the plants were dropped eighteen inches apart in the row and the roots pushed into the soil by means of a stick with a slight fork in the end. If watering was necessary at the time of planting, one man made the hole with a small hoe, another man poured about a pint of water into each hole, a third man dropped the plants, and the fourth man set them out by hand. This is an effective, but a very expensive, way of setting out sweet potatoes at the present price of labor.

Where large areas are to be planted, a planting machine should be used. A very satisfactory transplanting machine now on the market may be purchased for from $40.00 to $45.00. It is drawn by two mules and carries a tank holding about sixty gallons of water for watering the plants. This machine is operated by three men. One man drives the team while two men ride on small seats to the rear and place plants in the drill. The watering device is automatic and can be regulated to put almost any quantity of

water in each hill. The machine can be set also to space the hills any distance desired. The mules pulling a machine of this kind must be trained to walk slowly where plants are set as close together as sweet potatoes.

Under favorable conditions, a transplanter will transplant about four acres of potatoes per day. It requires two mules and three men to operate it. Under the same conditions, four men will set only about one acre per day.

PLANTS OR DRAWS.

The question is often asked whether vines or plants should be used for the general crop. There are many growers who use vines only, who never plant slips. Early in the spring they plant several rows of small potatoes, the large ones being cut into pieces, which they call their seed bed; and as they begin to run they cut off vines from ten inches to one foot in length, and with these plant their general crop. This method seems to do well for those who plant a limited area only; then, too, it is likely that these growers realize that frequent cutting of vines from their general crop ridges are an injury to the plant.

The writer has made frequent experiments with the Nancy Hall, the Porto Rico and Triumph varieties. The Nancy Hall variety was injured more than half. part of the plat became yellow and blighted a few days after the vines were cut. The Porto Rico variety was injured a little, but not enough to seriously effect the crop; while the Triumph was not hurt at all and no appreciative effect noticed on the yield. It must be stated here, that the last two named varieties were not cut so close as was the Nancy Hall. From these experiments the writer is convinced that cutting of

vines will never be beneficial to the crop, and in certain seasons and stages of growth will be a positive injury. It might be interesting to know that the Nancy Hall is more subject to disease than the other varieties, and having its living power reduced by the cutting of its vines weakened it and thus rendered it an easy prey to its diseases. The rows of Nancy Hall that were not cut at all remained dark green and produced a good crop.

The following tabulated experiment by Mr. Stuckey, of the Georgia Experiment Station, supports the theory of the writer. This item is taken from Bulletin 107:

CUTTING OFF VINES REDUCES YIELD.

"It is the practice in a number of localities to pen some pigs near the potato patch and feed them time to time on cuttings from the vines as soon as the vines cover the ground.

"To determine the effects of severe cutting of vines on the yield of the sweet potato, a test was made during the season of 1912. Six rows, 209 feet long, were well fertilized and set to the Enormous variety of sweet potatos early in May. These potatoes were given the same culture usually given in growing potatoes.

"By June 14th the vines had completely covered the soil. Those of rows 1 and 2, and 5 and 6 were cut back to one foot in length and removed from the field. A few weeks later, these had grown out so that the entire soil was again covered so that one could hardly tell that any vines had been removed. On October 24th the potatoes were harvested with the following results:

TABLE III.

Rows 1 and 2	680 pounds
Rows 3 and 4	1,062 pounds
Rows 5 and 6	620 pounds

From this it seems that cutting the vines may reduce the yield to nearly one-half. While this reduction may be less if smaller cuttings are made and the period of cutting extended over a lengthy season, it is doubtful if the practice of cutting vines from the growing potato crop is ever profitable. The leaves of the potato vines are the organs for transforming the plant food into the starch and other elements that compose the sweet potato. When we cut the vines, the assimilation process receives a severe shock and so reduces the yield."

From these experiments it would seem the better method for large acreage is to plant draws instead of vines; then again it is so much easier to get the plants than the vines as there are scores of reputable plant growers in almost every state of the cotton belt.

One large grower on cultivation says "put your second application of fertilizer in the middle of the rows immediately after you cut the vines for planting." This strengthens our argument advanced previously in this chapter under subject of vines. He evidently realizes that the plants recently operated upon need a medicine.

CHAPTER VIII.

CULTIVATION.

On new ground very little cultivation is necessary. The nicest, smoothest potatoes the writer ever saw were raised on a piece of land from which cross-ties were hauled in December and cleared in the following spring and planted in June, and harvested in November. The yield was very good.

The only cultivation necessary on new ground is a shallow one to conserve moisture, and to loosen up the dirt about the plant in order to give the roots plenty of air. On sandy land a good garden rake is a very good tool. On heavy lands a garden hoe or scraper is necessary.

On old lands more frequent cultivations are necessary, in order to keep the crabgrass and weeds out. The crabgrass is to the sweet potato what the tick is to the cow. It should be carefully kept out of the field. The ridges should not be disturbed by a plow. Use a hoe if necessary to scrape off the grass, and pull up the large weeds by hand.

In large fields a riding cultivator is a desirable implement. One with disc or scrapes will do better than one with hoes or shovels.

Laying-by can be done easily with a one-horse sweep filled up with sloping boards. Some growers use a common one-horse plow and go twice through the row, throwing fresh dirt to each side of the row.

If the grass should get a start of the grower, the best implement is a small turn plow, run down each side of ridge, throwing the dirt away from the plants, and immediately follow with hoes and cut out all

grass and weeds. In a few days the same plow can be used in throwing back the dirt. Of course, if the plants have already begun to vine and potatoes formed, this method must not be used as it will do more injury, especially in dry weather, than good.

In laying-by the vines should be laid aside so as not be injured by the horse or plow.

All grass and weeds should be kept out of the potato patch, as the young tubers should not be disturbed when once formed.

More crop failures have resulted from grass and weeds getting control than any other cause. The planter must ever be on the alert for the appearance of grass—our best friend and our worst enemy.

For the benefit of those who like variety of methods, we produce the following articles by other growers of experience on sweet potato culture.

By the Empire Plant Company:

"For sweet potatoes, select a warm sandy loam well filled with humus, but they will produce a fairly good crop on most any kind of soil, provided it is well drained, and adequately supplied with plant food. Plow the land shallow, as deep plowing produces too many strings and badly formed tubers. Harrow and pulverize thoroughly, and lay off the rows from 3 to 3½ feet apart, and apply in the drill 500 to 1,000 pounds of fertilizer according to fertility of your land. The fertilizer should analyze 8 per cent of phosphoric acid, 3 of ammonia, 6 of potash. Mix the fertilizer in the drill before covering, and cover by throwing a furrow from each side, knock off the top and set the plants about 18 inches apart. If the soil is dry, make holes with a hoe about two inches deep; set the plants in

the holes, apply about half a pint of water to the hole and cover with dry soil.

In working the crop, throw the soil to the plants, so when you lay them by, you will have a good bed."

The following by a successful Southern grower of sweet potatoes is a worthy article—one that strengthens our ideas expressed in previous chapters:

HOW I MAKE 500 BUSHELS OF FINE SWEET POTATOES PER ACRE.

And you can do just as well and probably better. I have my land broken deep in the fall if possible; if not, I flat-break early in the spring, at least thirty days before I commence to set plants. I follow with disc harrow, going over ground from one to three times or until the soil is thoroughly pulverized. About ten days before I expect to set slips, I lay off rows 4 feet wide with 12-inch sweep. In this furrow I put fertilizer, using from 400 to 800 pounds per acre of high grade commercial fertilizer, analyzing Acid Phosphate 9 per cent, Nitrogen 3:29 per cent and Potash 7 per cent, well scattered. I run small plow in furrow to mix fertilizer well with the soil. I now use 8 or 9-inch turn plow to list on fertilizer, making plow cut all it will so as to leave a good, wide ridge. I am now ready to set plants, which I proceed to do immediately after a good rain. I have the slips drawn from bed and carried to the field in large baskets, distributing in piles at each end and midway of rows. I have man with plank or board attached to plow to proceed dropping slips and partially knock off ridge. This facilitates setting the plants, also it answers as a cultivation in getting rid of young grass and weeds that are beginning to put forth. It is very important that there are no weeds or grass left in the drill. Another

man or boy goes along row dropping slips and another comes along immediately with stick—round one is best, about two to three feet long and one inch through. Place stick near the root end and push straight down, leaving enough plant above ground to insure good growth. Should it be necessary to put out plants when ground is dry, I put out as above described and afterwards watering them, covering the moist dirt around the plant with dry soil to prevent baking by the hot sun. If the ground is very dry I water the plants in the afternoon for two or three times. Within the next few days I run the spring-tooth harrow through middles to destroy the weeds. About ten days after plants are set I throw two more furrows to row with turn plow and run out middles with a sweep. One week later I run spring tooth harrow, set as side harrow, close up to plants, working dirt to middles. This cultivation is followed by hoes, and I am very careful to get all weeds and grass.

By this time vines are beginning to run. I follow the hoes with a 12 to 14-inch sweep, having vines turned ahead of plow. About one week after I put two furrows to row with turn plow and plow out middles with large sweep. This completes the cultivation if vines are vigorous and have covered the ground; if not, I run the harrow again before a crop of grass gets started, and follow with a large sweep in middles.

My observation has been that most farmers neglect their potato crop, devoting most of their time to corn and cotton, resulting in the potato ground growing more weeds and grass than potatoes. Then he complains he cannot "make anything" growing sweet potatoes. I have known some of these fellows actually having to burn off the potato patch before

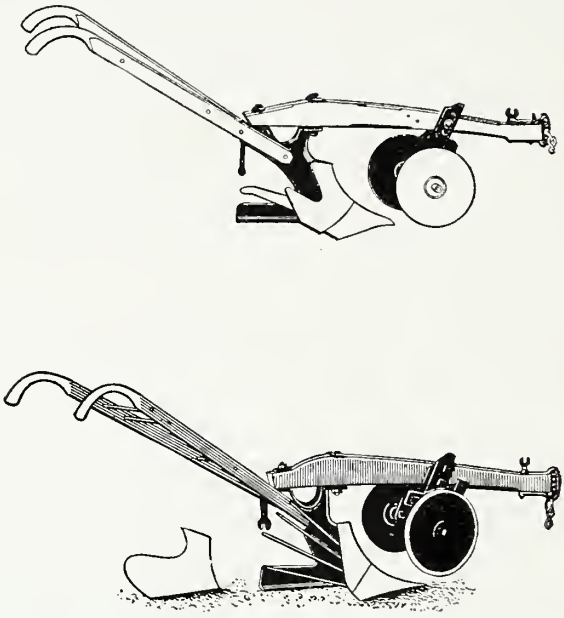
they could get in there with the plow to dig their potatoes.

By starting out with our ground well prepared, with strong, thrifty, vigorous plants grown from sound pure, selected seed, with good fertilizer and with frequent cultivation, I find it not a difficult thing to do to realize a yield of 400 to 600 bushels of fine sweet potatoes per acre."

IMPLEMENTS.

The implements required in the growing of the sweet potato are very simple. We have known a number of growers to make a good crop with a Dixie plow, part of a broom handle, a garden hoe and a potato hook. In general the implements used in growing other crops can be utilized in the growing of sweet potatoes. To be sure, there are many kinds of special machinery on the market that make the growing of sweet potatoes much easier. As for example, the two-horse ridger, fertilizer distributor, the two-horse transplanter and the two-horse digger, together with the vine cutter. This machinery is used largely by growers of from twenty to one hundred acres or more. It is not necessary for any prospective sweet potato grower to order any of this new machinery until he has learned how to grow a successful crop of potatoes with the simple machinery found on every southern farm.

Main Streets of the Little Village of Pinecastle, Florida, the Largest Shipping Point of Sweet Potato Plants in the South.



From Farmers' Bulletin, 324, U. S. Department of Agriculture.

Figure 18—Suitable implement for plowing up sweet potatoes, provided with sharp rolling coulters that cut the vines ahead of the plow.

CHAPTER IX.

HARVESTING AND STORING.

There is no fixed time to harvest this crop. Those who cater to the early market will take them up before they are fully matured on account of the good price received for them. If they are to be shipped any distance, handle very carefully and pick out the unsightly ones for the stock or home use. Sell the medium sized ones only and this will be a starter towards the habit of grading your potatoes. The majority of the planters do not dig their potatoes until touched by a slight frost. If this happens the vines should all be cut off and piled on the rows; and in addition to this the exposed potatoes and cracked hills should be covered with dirt. If this is done, especially in the lower states. the potatoes can remain in the ground for several weeks and the keeping quality, as well as the eating, will be improved.

Much depends on when and how the sweet potato is dug from its hill as to its keeping after having been stored away. Therefore. in digging potatoes the utmost care should be taken to injure as few as possible. The vital essentials to the successful harvesting of the sweet potato, are the time of digging. weather conditions and methods of digging. and the care of handling. As to the time of digging we give the following for what it is worth. This writer is evidently a strong believer in the effects of the moon upon things on the earth. He says, "The best time for harvesting the sweet potato is immediately after the full moon in October." and gives the following reasons: (1) "That the moon has to do with weather conditions. (2) The moon has to do with sap. and as the sweet potato is

very sappy it is best to harvest it at a time when it contains the least sap as this greatly determines its keeping qualities. At this particular time weather conditions are usually favorable and the potato contains least sap at this stage of the moon."

There are various successful methods of digging the sweet potato, but whatever method is employed it is very important that extreme care be taken that the potatoes are not bruised or cut. In plowing them up do not let the mule or horse step on the hill. And in plowing, a tool should be employed that does not cut the potatoes. A bruised, cut, or frost-bitten potato might destroy the whole bank.

After the potato has been plowed from the hill, care should be exercised in handling. They should be gathered up by hand, put in basket, and carefully emptied into the potato house or into the bank. When weather conditions will admit it is a good plan to allow the potatoes to dry several hours before storing them away.

BANKING.

How to keep the sweet potato after you have harvested it is a serious question. It seems each grower has a separate method for storing, yet it frequently happens that they lose their whole crop.

The "old bank" method for storing potatoes we see so much in the Southern states, is a good method provided ventilation is given, and it is protected from the rains, which is the real essential. The writer has kept them in the bank by running slatted troughs up the top of the heap from the center and also from the center of the pile to the sides and by closing the whole heap without any ventilation whatever. As has

been said, keep the rain out and there will not be so much danger of the crop being lost by rot.

The writer will recommend, where there are large quantities to store, and where the regular curing houses are not used, to adopt the following method:

Select a high, dry piece of ground and level off with a garden rake, a bed five feet wide running north and south, cover the ground with two or three inches of pine straw, hay, or any bedding, on this pile your potatoes in a V-shaped ridge five or six feet high and running along the row the desired length, depending on the amount of potatoes you have to store. We would not, however, put more than a hundred bushels on a pile. Some growers put nothing on the bottom of the banks. The best plan is to allow the potatoes to dry in the banks a few days by exposing them to the sun during the day, provided it is not excessively hot, in which event we would cover the heap with sacks, straw or hay. Care should be taken not to allow any dew, frost or rain to get on the potatoes before banking. At night they should be covered. If it should rain, allow to dry again in the sun. When reasonably dry, cover the whole bank with straw of some kind three or four inches thick, and over this put four or five inches of dry soil. This makes a nice bank of potatoes and the hay or straw will absorb the water or sweat given off by the potatoes while curing and the dirt holds the straw in place and keeps out the cold; but not the rain.

To provide better ventilation the writer has used poles or rails laid along lengthwise through the center of the bank. Pile two on the ground and one on top and allow the ends of these poles to extend about one foot out upon either end of the heap. This allows

ventilation to follow the poles, and at intervals of five feet slatted troughs running from the center of the pile to the top of the heap were placed. This allows the air to get in at the poles and out at the top of these chimneys. During real cold weather old sacks or straw could be stuffed in these troughs to keep the cold out.

To protect against rain is an easy but important matter and should be attended to at once. Take a number of scantling or poles and make a house roof frame, and on this lay four-inch boards with the lap lengthwise; or use tar paper or shingles—in fact anything to keep out the rain. If you store your potatoes away in this manner always, to be sure, observing every precaution given to pick out all bruised, cut and frost-bitten ones, by using the proper fertilizer, by preventing them from getting their "feet" wet in stagnant water in the fields, you will have no trouble in keeping your potatoes until late in the spring when prices are high.

We offer the following methods of harvesting and storing the sweet potato. These suggestions come from men of ripe experience. The following from Bulletin 548, United States Department of Agriculture:

HARVESTING SWEET POTATOES.

Careful handling is one of the essentials in keeping sweet potatoes, and there is no more important place to practice it than in the field at digging time. The implement used to dig sweet potatoes should be one that does not cut or bruise the roots. One of the best types of diggers is a plow with rolling colters on the beam to cut the vines and with rods attached to the moldboard to free the roots from the soil and vines. After the potatoes are dug they should be

scratched out by hand and allowed to remain exposed long enough to dry off. The digging should be done, if possible, when the weather is bright and the soil is dry.

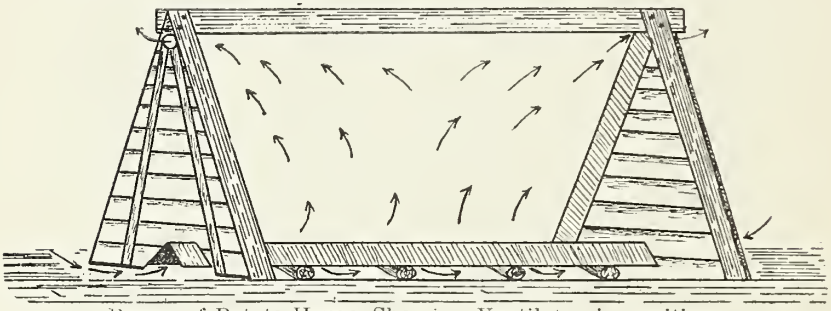
The potatoes should be graded in the field in order to reduce the cost of handling to a minimum. A good plan is to go over the rows and pick up the sound, marketable potatoes in one basket, then gather all of the seed stock in another basket or box, and the injured ones in still another. These lots should be stored in different bins. By following this method it will not be necessary to grade the potatoes at the storage house and will thus save time and reduce the cost of handling."

Prof. T. K. Godbey contributes the following on storing the sweet potato:

The secret of keeping sweet potatoes is ventilation. Now we know that nearly every one that puts up sweet potatoes, makes some sort of effort at ventilation, but every one that we have seen is either very defective or a total failure. Editors of agricultural papers have visited us and tried to illustrate our method of storing potatoes and have made a failure in showing the essential part, ventilation. Bulletins are sent out by the Department of Agriculture showing ventilators that do not ventilate. Nearly every one that puts up potatoes provides a way for the air to get out, but fails to provide a way for it to get in, hence the potato bank is full of dead air that is just right to produce decay.

The accompanying cut shows just how the house is ventilated. Make a V-shaped trough long enough to run the full length of bank or house, and project at each end. If lumber is scarce you can use three poles.

Set the inverted trough on sticks of wood laid crosswise on the ground, so the air can pass out of the trough and up through the potatoes. If you use poles the air will pass out between them, as they will not lay close enough together to shut out the air. Do not make any floor in the house or put down any straw,



Frame of Potato House, Showing Ventilator in position.

but pour the potatoes on the ground; they keep better this way. As soon as potatoes are housed they begin to give off moisture and get hot. This heat creates a draft if air can enter at the bottom, and escape at the top as indicated by the arrows in the cut.

After the potatoes are housed a month or more, and the weather gets cold, the ventilator can be closed by covering the ends with earth. Potatoes intended for keeping over winter should not be planted early. We begin to plant here (Florida) the first of July, and finish about the first of August, and dig about December first. This gives four or five months in which to grow, which is about right. We often dig potatoes in the rain right out of the mud and pile them up dripping wet, and, in three days, with our ventilation, they will be dry and dusty.

Potato banks can be made any size desired. We usually make ours about 18 feet long, 7 feet wide and 4 feet high, holding about 200 bushels each. We do

not advise making them larger than this. The banks should be set with ends north and south, so the sun will shine on either side of them. We make the ends double by putting up two walls of boards about 8 inches apart and filling in between with earth, leaving a hole under the ridge pole for the air to pass out. Cover the banks with boards, being sure there are no leaks, and cover with earth sufficient to keep out frost. If this method will not keep your potatoes, they have some defect that we know nothing about."

The method of keeping sweet potatoes as practiced by the Georgia State Sanitarium on their large farm in the southern portion of Baldwin county, operated by that institution, has proven a great success. It is as follows:

"Build a tight house, storm sheet it, cover with builders' paper and weather-board it, coill walls and overhead, leave door in south end, window in north end. Use two doors and double windows in same opening; one opening inside and one outside. This leaves dead air space to keep building warm. Make air shaft in center of roof and open it south with transom above the roof. Make slotted shelving each side, beginning about 12 inches from dirt floor, shelves two feet apart made of one-by-four lumber, place one inch apart so air can circulate freely through the shelves. Have aisle in center three feet wide. Build house ten or twelve feet wide and as long as wanted. A house thirty feet long will hold about 2,000 bushels of potatoes. A large stove must be placed in the center of the room—if the building is very long, two stoves should be used. The room should be heated to a temperature of 100 degrees Fahrenheit after shutting the doors and windows. Open transom and ventilating shaft. It is necessary to have a small vent hole under

the door for intake of air while drying if the building is tight. The stove must be heated as soon as the first potatoes are put in so as to begin drying them at once, before they rot, the idea being to kiln dry the potatoes. It is highly essential to get the moisture out of the potatoes as promptly as possible. About ten days steady heat with a temperature of 100 degrees Fahrenheit is required to thoroughly dry the potatoes after all of them have been placed in the house. When they are entirely dry, doors and windows should be opened up, after which the stove and room should be cooled off. Then keep it as cool as possible without freezing. Forty degrees will be about the right temperature for this purpose. After this no more heat will be needed during the winter. In the event freezing weather should prevail the doors and windows should be closed to prevent freezing the potatoes. Ventilation should be given just as soon as the weather has moderated. Where this method is followed the percentage of loss will be very slight indeed. Such a house as the above described one may be constructed with lumber, comparatively cheap, no floor being needed. It is advisable to select a high, thoroughly drained location, as a dry surface is very essential. This house may also be made of brick or stone."

In concluding this very important chapter, the writer would urge that the farmer harvest his sweet potatoes when the ground is dry and the skies are clear, if possible; as the condition of the soil when the potatoes are dug, and of the atmosphere when they are exposed, will greatly determine whether they will keep or not, after having been stored away. Also, exceeding care should be exercised that no bruised or cut potatoes are stored, that they are well protected from the rain, and that the bank or house is properly ventilated.

CHAPTER X.

MARKETING.

The disposal of any crop at a successful profit to the producer is always a perplexing question.

There is no doubt that the growing of sweet potatoes on a commercial basis in the South will become a great success when properly undertaken. Up to the present time, Southern sweet potato growers have not been able to supply the home markets during twelve months in the year. Frequently during the year the scarcity of sweet potatoes runs the price as high as one dollar per bushel. This ought not to be so. The trouble lies in rushing the potatoes at digging time to the markets, and also to the improper methods of storing, the producer fearing to bank his potatoes feeling almost sure that he will lose them before spring by rotting.

One writer claims that fifty per cent. of all the sweet potatoes raised in the South never reach the market, and gives as the cause a lack of knowledge in digging properly and banking so as to keep them. We believe this statement too extravagant. To be sure, many potatoes rot in the banks; but many are consumed by the producer at home, both by the family and the stock.

It is a fact, that if the growers all over the South want to learn the essentials in connection with sweet potato growing, that it will only be a matter of a short time until the Southern markets will be supplied; therefore, if we ever hope to make sweet potato grow-

ing a commercial success here in the South, we must begin right now to secure new markets.

There are many densely populated sections of the United States into which the sweet potato has never been introduced. These are the centers into which we must send our potatoes and thus create a demand. We have the railroad facilities, and the consumers of those large cities are willing to pay the price for the right kind of stock. It is up to the grower to furnish the "Goods."

In order to meet these requirements and to get enough potatoes of some one variety that will fill the bill, we would suggest community potato growing: that is, let the farmers of any community form a sweet potato club. Let them all set out the same variety of plants, making sure that they are true to name and that the strain is pure. This can be done by all clubbing together and buying pure seed potatoes for bedding purposes, from seed growers of good repute; or by ordering pure strain plants of the variety wanted, from reputable plant growers. By thus clubbing together they can save much money in buying commercial fertilizers, up-to-date machinery adapted to sweet potato growing, seed and plants.

The club could, at stated times, have illustrated lectures by men who are experts, not only in the grading of sweet potatoes but in packing and grading for the markets. Again, by growing a sufficient quantity of one variety, enough graded potatoes could be secured so as to ship in carload lots.

A few years ago two carloads of as fine potatoes

as ever grown in the South, were sent from Homeland, Georgia, to the cities of Minneapolis and St. Paul. The potatoes were graded, in a manner, but they did not meet with the popular fancy of the Northern buyers; they wanted an "oval" potato, not very large, uniform in grading and a potato with a sugary, mealy texture.

The most of the potatoes shipped in those two cars were the Norton or Dooly Yam, an excellent all-round potato and of the best potatoes for home use in the Southern markets; and the Triumph, a potato that sold fairly well, as it filled the bill so far as the quality of the potato was concerned. The experiment with these two cars was not an utter failure for the growers in a financial way, but it was a great success to them in teaching a lesson that life is too short and advertising too expensive to change the tastes of fifty million people. Therefore, it behooves us to grow a potato and grow them in such a way as to meet the demands of the markets to which we wish to cater.

The Jersey types seem to be the best potato thus far for the Northern markets. The South does not yet have a perfect type to suit these markets. The Triumph grows too large and too long; yet we believe, by a proper seed selection of those inclined to be short, oval, light yellow, and smooth texture, it may be possible to breed the Triumph up to a fuller yield of gradable potatoes.

It is possible that the Big Stem Jersey, the Southern Queen and Yellow Nansemond will be the varieties selected to furnish potatoes for the Northern markets.

May we not have an entirely new variety originated here in the South which will embody all the qualities of a potato demanded by these Northern buy-

ers? We have a host of plant specialists who are both intelligent and capable. What Prof. Godbey, of Waldo, Florida, has done in originating the Triumph, that has admirably filled the want in the South for a yellow meated, dry, mealy potato, can't he, or some other grower, perfect a variety that will fill the requirements? Let us hope for this new potato.

A good suggestion right here is for a number of planters throughout the South to grade several nice hampers of the finest potatoes grown and send them to a commission man in the North and ask him to sell them. It is quite likely that the returns will not be much in a financial way, but you might create a permanent market for carload lots. Another plan is to send a box of your nicest graded potatoes, by Parcel Post, to your friends in the North and ask them to share with their friends, and in this way create a demand for our Southern Grown Potatoes.

It is a conservative estimate to say that the South ought to be shipping thirty million dollars' worth of sweet potatoes, into the North and Northwest every year.

GRADING.

All large and small potatoes should be thrown aside and only potatoes of an oval shape, clear skin, and weighing from a half pound to three-quarters of a pound each, selected for shipping.

PACKING.

Potatoes should be either shipped in barrels or bushel hampers. If barrels are used, we would not put in the heads at all. We would pack the graded potatoes in layers until the barrel was just full; then cover with a sack or cloth, place the top hoop back on and secure fast with small nails. If hampers are used,

we would pack with the same care as in barrels.In either case we would be very careful not to include a single bruised potato, nor one bitten in the least by the frost. By observing these essentials in grading and packing, it is highly probable that in a few years we will be shipping the Northern market and be bringing back into the South many million dollars that we are sending North every year for hay and other products.

CHAPTER XI.

CONCLUSION.

In bringing this volume to a close, the writer wishes to emphasize several phases of the work already treated in this book as well as some other points which we omitted. "We learn to do a thing by doing it" is an old adage. Thus by fixing certain details connected with successful sweet potato growing upon our mind until it becomes a part of us, a "second nature," success is assured.

The authors of this book believe that anyone who can induce a grower to make two dollars where he made one before, is a public benefactor. We believe by applying scientific methods in whatever we do, always keeping a record of what we are doing, and how we did it, that "two blades of grass can be made to grow where but one grew before." Let us then be systematic.

A grower who uses system in whatever he does knows what to expect under normal conditions and what not to expect under abnormal conditions. If he plants an acre in sweet potatoes when a good season is on, in well prepared land, at the proper time to plant for the best yield in his particular locality, his records will show he has a right to expect a certain number of bushels and should not miss the yield very far.

Let us do a little figuring. In an acre there are 43,560 square feet. If he plants his potatoes a foot and a half apart on the row, and four feet between the rows, a plant requires six square feet, and dividing 43,560 by six gives us 7,260 the amount of plants

required per acre; if the rows are put three and a half feet apart and the plants a foot and a half apart on the row it would require 8,297 plants per acre; if the rows are put 3 feet apart and the plants one and a half feet it would require 9,680 plants per acre. Let us repeat the method of finding out the number of plants required per acre. Multiply the distance the rows are apart by the distance the plants are set on the row, and divide this product into 43,560, the number of square feet in an acre. The answer will be the required number.

Suppose a grower wants to set out an acre of land into paper shell pecans, and desires to set the trees fifty feet apart each way. Multiply 50 by 50 and you get 2,500, divide this into 43,560 and the answer is 17. Therefore you will need seventeen trees to fill the acre.

Now let us figure a little on the future yield of an acre of sweet potatoes. Suppose the rows are four feet apart and the plants set one and a half foot apart on the row, gives us 7,260 hills of potatoes; figuring two pounds per hill, gives us 14,520 pounds and dividing by 55 the number of pounds in a bushel, we get 264, the number of bushels per acre. This is not an extravagant yield. An acre, well planted ought to yield this amount. Every plant ought to make some potatoes and if rightly planted will do so. Of course, there will be disappointments in sweet potato growing as in all other things. A few years ago a young man came from the North and after studying the different crops which would make any one rich, he bought a few acres of land and decided to make his fortune on growing sweet potatoes. He figured it all out on paper. His results there were indeed encouraging. He planted three acres. He figured on 24,000

hills, and a half peck to the hill, or 12,000 pecks, or 3,000 bushels at 50c per bushel, would yield him $1,500, for the first year.

Now let us see what he did. He planted the potatoes in an old worn out field devoid of humus, from which the little trash left on it had been burned the previous winter. He plowed and harrowed and threw up the ridges and planted. He put about 300 pounds of fertilizer (8. 2. 2.) to the acre. He cultivated as any one should do. Many of the vines never grew a foot long. His harvest came and from the three acres he dug about 50 bushels. His disappointment was great. He decided he would plant no more sweet potatoes. He decided he would not buy any more land.

Now let us look into this fellow's failure. In the first place his land was too poor, no humus, worn out physically. Then he did not plant the kind adapted to his particular locality and to that kind of soil, and in fact no variety will do well in such soil. He did not give time enough to preparation of the soil. His fertilizer was miserably poor, and lacked the principal elements necessary to a successful crop, namely, phosphoric acid, ammonia, and potash.

Since then, the writer has grown at the rate of 600 bushels of sweet potatoes on the same ground. He planted cowpeas on this land the year before, and used a fertilizer analyzing 6-4-10 at the rate of 800 pounds per acre. This was home mixed, and was put on in two applications. Let us "cut out" the barren hills of whatever we plant.

Let us now mention a few diseases that the sweet potato is heir to in this country. The first is the "root rot" and affects plants grown in hot beds, and

Mr. Preston's Sweet Potato Plant Beds at Pinecastle, Fla.

Beautiful Lake at Pinecastle, Florida, from which water is used in irrigating plant beds.

Mr. Pitts' Sweet Potato Plant Beds Near Hampton, Fla.

is thought to be caused by the ammonia in the domestic manure. Plants thus affected should be fed to the hogs. The next disease is the "vine blight" and is mostly a local disease. It happens to vines that have been severely pruned, or to vines grown in land that is sour, or lands deficient in humus. It is caused primarily by some physical derangement of the soil. Another disease, though not common in the South, is the "black rot" that affects the tubers. It occurs most frequently in potatoes kept in storing houses, and especially noticeable in the northern limits of the southern states. Some say it is caused by foul air. The cause is not definitely known. One thing is sure, we seldom see it in potatoes kept by the "bank" method.

In final conclusion the writer wishes to impress upon the grower the importance of keeping a record of all he does on the farm. Make farming a "business" the same as the merchant. Study the bulletins issued by the State Experiment farms, and the Department of Agriculture at Washington, D. C. A post card will bring what you want. Index these bulletins so you can find what you want in a minute's time. Study rotation of crops. Co-operate with your progressive neighbors. Take a day off now and then and go way off in the next county and see how they do things. Work in a new crop each year until you have so diversified that cotton becomes a surplus crop only. Make your farm pay.

That success may be yours not only in sweet potato growing but in every endeavor put forth on the farm for your betterment is the wish of the author.

CHAPTER XII

COMMERCIAL SWEET POTATO PLANT GROWING IN THE STATE OF FLORIDA.

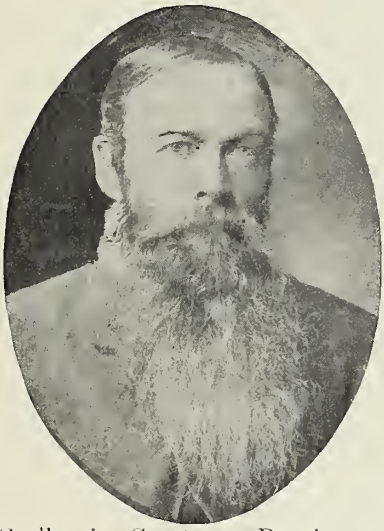
"The whole State is a plant factory, an immense open-air greenhouse, whose resources have not been scratched so far." This assertion was made not long ago by a newspaper reporter, after having seen the sights of nature's great plant garden as he traveled from one end of the Peninsula to the other. The gentleman told the truth.

The writer has just made a complete tour of the State of Florida that we might be able to give to our readers the real truth of what is being accomplished in this particular phase of the sweet potato industry, commercial sweet potato plant growing. On this trip we visited practically all the leading plant growers and truckers. From the Georgia line to Tampa Bay we saw it all, and were made to realize that "the half has not been told" of Florida's wonderful resources.

Especially in her adaptabilities to plant growing, no other state in the South, and no other country in the world can be compared to Florida. We realize the magnitude of such an assertion, but we do not think that we are covering any too much territory when we make it, for we have seen with our own eyes and know whereof we speak.

In order that our readers may have a better appreciation of what is being accomplished in commercial sweet potato plant growing, how and by whom such wonders are being wrought, we are devoting this entire chapter to the histories and achievements of the men whose effects are playing the leading part in the growth and development of this modern industry.

PROF. T. K. GODBEY, OF WALDO, FLORIDA, FIRST COMMERCIAL SWEET POTATO PLANT GROWER AND ORIGINATOR OF THE FAMOUS TRIUMPH VARIETY.



We are glad to present our readers with a cut and brief history of the man that has done more for sweet potato growing than any other living man, Mr. T. K. Godbey, of Waldo, Florida.

This gentleman was born in Missouri in 1858, and moved to Florida in 1883, and engaged in fruit growing. Godbey's Seedless Persimmon, a magnificent fruit often weighing eighteen ounces, entirely seedless and of the finest quality, and Godbey's ever-blooming Wisteria, are among his achievements.

The great freeze of 1895 destroyed his orange grove and fruit orchards and he turned his attention to general farming. Mr. Godbey, desirous of engaging in a line of work that would not put him in competition with the great mass of farmers in the South, has never planted a hill of cotton in his life, but saw in the sweet potato a vegetable that, while it found a welcome place on the tables of the rich and poor alike, was sadly neglected as to efforts for improvements; and to give it prominence, such as it deserved, as a

commercial product of the South. Mr. Godbey began commercial sweet potato growing in 1897 by bedding out twenty-five bushels of the Bunch Yam and offering plants for sale.

His neighbors made fun of his venture and told him he could never sell the plants off of so many potatoes; but he did sell them and increased his plantings, from year to year, until in 1912 he had the enormous amount of 25,000 bushels bedded out to furnish his trade in plants. Now the plant growing business has been taken up by hundreds of others scattered over the South, and the business has only just begun.

As already stated, the Bunch Yam was his starting point. This was soon superceded in popularity by the Providence and Providence by Nancy Nall, and it is only a question of time when Triumph will perhaps be in the lead. Providence, Nancy Hall and Godbey's Triumph are all Florida seedlings and were all introduced into public favor by Mr. Godbey.

Mr. Godbey's contention is that no matter what others may claim, the only way to produce new varieties of sweet potatoes is by planting the seed that is produced on the vine above ground from the blossoms, and any one claiming to have produced new sorts in any other way is a fraud.

He further states that Florida is the only state in the Union where the sweet potato blossoms and matures seed from the blossom; that they may bloom further north, but they do not mature the seed, and mature seed in Florida is very rare. "The U. S. Department of Agriculture sometimes imports sweet potato seed from the West India Islands and other tropical countries where seed is produced, but I have never

seen any of these seedlings that had any show of competing with the Florida product," says Mr. Godbey.

Mr. Godbey has devoted much time to the production of new seedling sweet potatoes and has produced a great many new varieties; but unless the new sort shows decided improvement over all the other sorts now in general favor, it is cast into the limbo of things forgotten. So far the Triumph is the only one of his seedlings that he has regarded as worthy of a name, but in the past three years Mr. Godbey has produced some seedlings that possess the earliness, productiveness, long-keeping quality and freedom from disease of the Triumph, with the fine form, color and quality of the Nancy Hall. These new sorts are now undergoing a most rigid test and the most promising will soon be introduced as the King of Sweet Potatoes.

MR. CHAS. M. McKINNEY, OF LOUISE, FLORIDA. COMMERCIAL PLANT GROWER AND GENERAL FARMER.

We will here introduce to our readers Mr. Chas. M. McKinney, one of Florida's most progressive farmers and largest commercial sweet potato plant growers.

This gentleman is a native of "The Land of Flowers," and for the past 37 years has resided at his present address where he has built one of the most ideal farms to be found anywhere in the State of Florida.

While engaged in general farming, Mr. McKinney makes a specialty of commercial sweet potato plant growing. To this phase of his farming industry he has given his most attentive care for the past several years with the result that he has today perhaps the most immense business of its kind in the world.

This gentleman has had about 20 years experience in the plant business, and was the second man to engage in sweet potato plant growing in the South. He ranks at the very front as a quantity producer, there being few, if any, other growers in this business who produce as many sweet potato plants.

Last season Mr. McKinney produced and shipped to his customers TEN MILLION sweet potato plants from his plant grounds near Louise, mostly of the Nancy Hall variety, at a retail price of $1.50 per thousand.

This Florida planter is also a great seed potato grower. Every year he grows from eight to ten thousand bushels of seed sweet potatoes from the choicest

varieties. His varieties for both seed and plants are the Nancy Hall, Golden Beauty, Porto Rico and Red Providence.

Mr. McKinney would have the public know that he never ships the other fellow's product; that his customers, when they order from him, get plants grown by Chas M. McKinney on his big farm near Louise, Florida.

We might here state that it is a practice of some sweet potato plant shippers to depend on the other fellow to produce the goods for their trade. This is not the practice of Mr. McKinney, but when he ships TEN MILLION sweet potato plants he has grown those plants on his own farm.

His plant grounds are well equipped with an up-to-date watering system. This greatly increases the yield from his potato beds, and is a sure protection against drouth.

To our readers who make a practice of ordering their sweet potato plants for early spring setting we commend this gentleman to their confidence and patronage.

MR. WILLIAM MACKLIN OF DINSMORE, FLORIDA, TRUCK AND COMMERCIAL PLANT GROWER.

We wish to introduce to our readers Mr. William Macklin of Dinsmore, Florida, one of the South's leading truckers and commercial plant growers.

This gentleman is a native of Ireland, where he was born, reared, and spent his younger manhood days. At the age of 29 he came to this country, and immediately engaged in truck farming on a small scale at Dinsmore, Florida. Today Mr. Macklin owns and operates the largest truck farm and plant industry in Duval County, Florida.

Some years ago, finding that he had to grow such large quantities of plants for his own farm, Mr. Macklin began shipping his surplus supply to other growers; but before doing so he made for himself one hard and fast rule, viz.: That if a plant was not sufficiently strong, healthy, and in every way fit to set out for his own crop, it was not fit for anyone else. To this rule he has steadfastly adhered ever since, with the result that each year his shipments of plants have doubled and some seasons have trebled; and he states that he has yet to hear from his first dissatisfied cutsomer.

About six years ago Mr. Macklin decided to test commercial sweet potato plant growing. The results have been marvelous. With the first season of this experiment, he shipped only a few thousand as his bedding was very light; but with each season since, his bedding has been heavier, and of course production of these plants greater, until last season he shipped 850,000 sweet potato plants from his farm at Dins-

more to his customers throughout the South and West, receiving for them $1.75 a thousand f. o. b. Dinsmore, making a gross income from his potato plants alone of $1,487.50.

His potato plants are grown from the following varieties: The Triumph. Norton Yam. Providence. Sugar and Porto Rico Yams.

If Mr. Macklin has a "hobby", (and he has) it is PURE SEED; therefore, to insure this, he grows his own potatoes for bedding purposes, giving to this phase of his work special attention.

Weather conditions throughout the season of plant growing determines the ability of many plant growers to supply the demands of their customers, whose orders for plants perhaps have been booked far in advance of the shipping season; but this is not so with Mr. Macklin who has his place well equipped with an up-to-date irrigation plant of the famous Skinner System which absolutely insures well grown plants "on time" regardless of weather conditions.

Mr. Macklin attributes his success in the plant business to the following reasons:

1. By never sending to anyone a single plant that he would not use in setting out his own crop.

2. By using only the best strains of seed that can be obtained, **price no object.**

3. By keeping his promises, and turning away orders rather than book them for dates that he cannot make good.

4. By unfailing courtesy to every inquirer, whether there is anything in it for him or not. No letter

or question left unanswered just because it might appear as though he could not make a sale.

5. More plants or the money back, if through any fault of his there is anything the matter with your plants when you receive them.

"If these are not the reasons for my success, then I do not know why I have succeeded any more than you do," says Mr. Macklin.

In his interest in the success of his customers, in all cases, in treatment or cultivation of their crops, or of overcoming enemies or difficulties peculiar to it. Mr. Macklin would have them write for information which he will fully and cheerfully give. His knowledge of the growing and marketing of the sweet potato crop is as full and complete as that of anyone in the Southern States.

We heartily commend Mr. Macklin to our readers as one whose efforts and ability have contributed largely to the phenomenal growth and unparalleled success of this comparatively new industry—**Commercial Sweet Potato Plant Growing.**

MR. J. W. STAF, OF WALDO, FLORIDA.

PLANT GROWER.

When it comes to delivering the "Goods" as a quality producer, Mr. J. W. Staf, of Waldo, Florida, has few peers in the commercial plant business.

In the year 1910 Mr. Staf began growing the sweet potato plant as a commercial product. He at once adopted the very wise policy of giving not the most to his customers for their money, but the best that could be produced. Not only does he use the best varieties for his bedding, but special care is taken that the proper means be employed necessary to the production of the most perfect plants.

Through years of actual experience this gentleman has learned that the cost of producing plants possessing real quality is much greater than those grown with very little care and attention; and that the quality producer must get a better price for his goods, therefore, his potato plants retail for $2.00 per thousand f. o. b. shipping point.

When asked by the writer if he did not find it difficult to dispose of his plants, when so many of his competitors were selling at a lower price, he very positively replied that he had never been able to supply the demand for his plants.

So this goes to prove that the public appreciates quality in a sweet potato plant as well as in other things; and that the fellow who follows quality production, even in the sweet potato business. is bound to succeed.

As we have already intimated. Mr. Staf is not a

quantity producer. Last season he shipped to his trade a little less than 500,000 sweet potato plants of the famous Triumph, Nancy Hall, and Porto Rico Yam varieties at a retail price of $2.00 per thousand.

Mr. Staf informs us that he never has a "kick" on the quality of his plants; and in the event of an error in count, which some times occurs with every plant shipper, same has his prompt attention and adjustment, as his chief aim is to please his customers.

Our readers will find Mr. Staf a very satisfactory plant grower to do business with.

ORIGIN AND HISTORY OF THE NANCY HALL SWEET POTATO.

In 1888, the writer was conducting a general merchandise store at Pinecastle, Fla. Among the things kept in stock was garden and flower seed. Miss Nancy Hall, then a young lady of sixteen, came in the store and purchased of him a package of Morning Glory seed. This was in the spring of 1888—twenty-seven years ago. She lived three miles out in the country, and on reaching home she placed some earth in a box and planted the seed, expecting soon to have some beautiful morning glories. She was disappointed; only one plant came up and instead of sending up graceful climbing vines, covered with violet blue flowers, it sent out a fat clumsy vine, trailing on the ground. The vine grew to be several feet long and looked so much like a sweet potato plant, she decided that it really was one, regardless of the fact that morning glory seed had been planted. The vine was cut into several pieces and planted in well prepared soil. They grew and flourished. Imagine the young lady's surprise when in the fall she dug them and found eight to ten oval shaped, yellow meated beauties in each hill. The news soon spread that a new sweet potato had been found. Just enough of them were eaten to test their eating quality, which was found to be all that could be desired. The others were carefully saved for seed and planted the following season. From this small beginning it has spread until it covers the Southern States and is today the most popular sweet potato grown, and justly so.

There are three essentials that go to make the ideal sweet potato, viz: Productiveness, eating and

keeping qualities. All of these qualities are found in the Nancy Hall Potato, in the superlative degree.

The writer, after having shipped many carloads of this potato to the commission men of Atlanta, Ga., visited in that city and interviewed the merchants on the sweet potato question. In talking with the head of one of the leading houses I named a certain variety of potato and asked how he liked to handle these. His reply was that they grew too large, rough and unshapely. Another variety that I named he said that they rotted too easily. When I mentioned the Nancy Hall, he said that was THE kind, that they were of the right size and shape, and their eating and keeping qualities were the best. Unfortunately many growers have planted this variety with others, until they have become badly mixed.

The writer, early in the history of this potato, secured the real article and has since planted nothing else, and I can therefore assure my customers that when they buy of me they will get the Genuine Nancy Hall Potato Plant.

J. W. MATCHETT,
Pinecastle, Florida.

Comment by author:

The writer of the foregoing article is one of Orange County, Florida's most substantial farmers and a very extensive Commercial Plant Grower.

MR. W. P. PITTS, OF HAMPTON, FLORIDA, COMMERCIAL PLANT GROWER.

One mile down the Seaboard Air Line Railroad south of Hampton is one of the completest plant farms in all the State of Florida.

The gentleman in charge of this model little farming industry is one Prof. W. P. Pitts, a man of various accomplishments. He is not only a horticulturist of ability, but is a man of literary attainments as well who has given much of his service to the cause of education as a teacher.

Several years ago Mr. Pitts engaged in commercial sweet potato plant growing in a very small way: but as he began to realize the wonderful possibilities of his new enterprise, his efforts were exerted on a broader scale to supply the demand for these plants. Today Mr. Pitts is one of the most extensive plant growers in the State of Florida, and is recognized as authority on the sweet potato subject.

Every year this Florida planter grows thousands of bushels of seed sweet potatoes from the best varieties, which he markets to the retail trade at a price of $3.50 per barrel. He also grows his potatoes for his own bedding purposes.

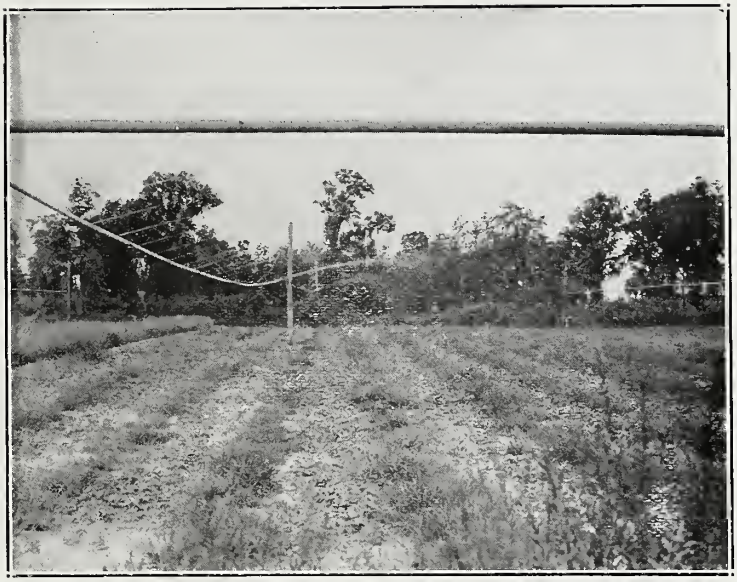
Every season he ships millions of sweet potato plants from his farm near Hampton to his thousands of satisfied customers throughout the Southern States. His varieties are: The Golden Beauty, Nancy Hall and Triumph.

Prof. Pitts enjoys quite a wide reputation as a quality producer. He believes in applying the law of

"the survival of the fittest" to sweet potato plants as well as anything else. If his plants fail to measure up to his required standard, they are cast aside as unfit.

In offering his potato plants for sale, Mr. Pitts, gives out a price list that is properly in keeping with the times of the season when the plants are to be shipped. This rule should be adopted by every potato plant grower in the South, for sweet potato plants for April setting are worth more than those for later setting, as it costs more to produce early sweet potato plants. And too, plants for July setting are not worth more than half those produced for April setting. Mr. Pitts will be glad to furnish this price list to any one on request.

With the very best natural advantages, and one of the best irrigation plants in the State, Mr. Pitts is certainly in a position to deliver to his customers the best sweet potato plants to be had, and we assure our readers that they will find this gentleman honest and obliging in all his business dealings.



Mr. Preston's Irrigation Plant in Operation at Pinecastle, Fla.

Prof. Godbey Irrigating Plant Grounds, Waldo, Fla.

MR. G. D. MOORE. FLORIDA ORANGE AND COMMERCIAL PLANT GROWER.

While on our Florida trip we stopped off at the town of Hawthorn, and spent the day with Mr. G. D. Moore, "The Plant Man."

Mr. Moore is a young man of only 26 years, and is a native of Alachua County, Florida. Appreciating the fact, as so many fail to do, that "the rolling stone gathers no moss," this enterprising young man is sticking to "the home bush," and to say that he is making good expresses it but mildly; but the man who hustles as "Guy" Moore does will make good most anywhere under most any circumstances.

As a commercial sweet potato plant grower we would place this young gentlemen in "Class A" if we were called upon to rate him on quality production. Believing firmly that "the best is the cheapest in the end," he has a standard to which his plants must measure up if they are shipped to his customers. While this quality requirement is costing him thousands of plants every season, it is holding fast his old customers and making him scores of new ones.

Not only is Mr. Moore a quality producer, but he is also some quantity producer as well. Last season, which was one of the worst that Florida plant growers have had to contend with in many years, he shipped to his customers over TWO MILLION sweet potato plants at a retail price of $1.75 a thousand.

Mr. Moore also grows great quantities of seed po-

tatoes every year for his bedding purposes and to ship to his customers throughout the South.

His varieties are the "Nancy Hall, Porto Rico and Triumph.

He has his plant farm well irrigated, which greatly increases the yield, and insures large, strong plants very early in the season.

Mr. Moore informs us that next season he will have connected to his irrigation plant a heating system which will enable him to supply water to his plant beds of any temperature that may be required for quickest and best production of his plants. We see no reason why such an experiment should not prove successful; and, if it does, it will mean much to the sweet potato industry.

The shipping facilities of the town of Hawthorn are most excellent—two railroads, the Seaboard Air Line and the Atlantic Coast Line, with six express trains daily. This gives Mr. Moore a decided advantage of some of his competitors as it insures prompt delivery of his goods to his customers at any and all points.

We commend Mr. Moore to our readers as a gentleman who has a record of fair and square dealing with his great host of patrons throughout the Southern States.

MR. H. H. THOMAS, OF EARLTON, FLORIDA, FARMER AND COMMERCIAL PLANT GROWER.

About two miles from Orange Heights, bordering on lake Santafee, is one of the prettiest little farms in Alachua County, Florida. The proprietor of this place is one Mr. H. H. Thomas, a student of the soil and an every-day hustler.

About ten years ago, realizing the adaptabilities of his soil and having the advantage of the waters of Lake Santafee. Mr. Thomas decided to turn his attention and efforts to plant life. He engaged only in a small way, at first, in commercial sweet potato plant growing. By his new experiment Mr. Thomas was soon convinced that there was no question as to it proving profitable. From year to year, since, his new enterprise has grown until last season he shipped to his customers about 3.000,000 sweet potato plants of the Porto Rico Yam. Nancy Hall and Triumph varieties at a retail price of $1.75 per thousand.

Mr. Thomas has been engaged in growing sweet potatoes from his boyhood, and has found this luscious tuber to be one of the most profitable products of Florida soil. He grows for marketing and bedding purposes every year about two thousand bushels.

The chief advantage which Mr. Thomas has over many of his competitors, is the surface water from Lake Santafee which is used for irrigating his plant grounds; this gives him a decided advantage in yield production as the potato plant is at its best under the application of surface water.

At his shipping point, Orange Heights, during shipping season, to see the great quantity of plants

rolling away by express to points all over the South and West, grown by this "Florida Cracker" planter, is a sight to behold.

We heartily commend Mr. Thomas to our subscribers as a gentleman and as one who ranks at the front as a Sweet Potato and Commercial Plant Grower.

MR. FRED M. PRESTON, OF PINECASTLE, FLORIDA. COMMERCIAL PLANT GROWER AND SHIPPER OF CITRUS FRUITS.

While touring the State of Florida, gathering all the information possible relative to the sweet potato industry, we visited the little town of Pinecastle, located on the A. C. L. railroad about five miles south of the city of Orlando.

Here we spent about four days seeing and learning much, as Pinecastle is one of the largest shipping points of the sweet potato plant in the South.

In the spirit of enterprise and progress, we would be willing to pit this little village against any town five times its size.

Pinecastle has one of the most beautiful locations we have ever seen. The town is high and dry, and is surrounded by crystal lakes, whose waters are literally alive with the choicest fish, providing a paradise for lovers of water sports.

So many and various are her advantages, we would not be at all surprised if, within the next five years, this little town is able to boast of a population of two thousand people. That is if the city of Orlando does not happen to incorporate her under a GREATER Orlando's care and keeping. In this event Pinecastle would become the home of Orlando's ARISTOCRACY.

This little village is the shipping point of eight commercial sweet potato plant industries, shipping every season about TWENTY MILLION sweet potato

plants to customers throughout the Southern and Western States.

From the month of March to the middle of July it is a sight to see the sweet potato plants rolling out from the town of Pinecastle. Most of these shipments are bound for points in the South and Southwest, but some of them go as far as the State of California.

While Pinecastle has only one railroad to handle this vast volume of business, with 2 daily express trains and emergency help provided by the railroads during truck and plant seasons, the shippers are able to get their products in transit just as promptly as if there were a dozen roads at their service.

Next season the sweet potato plant growers of Pinecastle expect to increase their volume of business at least one hundred per cent. Judging from the great potato fields in that community, the writer sees no reason why they should fail to realize on these expectations.

Here we wish to introduce to our readers Mr. Fred M. Preston of Pinecastle whose photograph appears on the first page of this article.

We have a very grave charge to bring against this gentleman. We charge that he (or rather his success and achievements) is largely responsible for what spirit of envy and jealousy that exists among commercial plant growers in the South today. Had he remained in the East, from whence he came, the envy in many of his competitors might not have been aroused. To say the least of it, he has certainly added much fuel to the fire as does every one who EXCELS in any line. But on the other hand if this wizard of the soil, and others like Godbey and Davis had not cast

their tents on Florida soil, perhaps we would not be able to give our thousands of readers today this great volume of sweet potato knowledge. The experience and achievements of the leading growers and shippers in the sweet potato industry have, in a great measure, made this book possible.

In any line of enterprise, we must have men of real ability, who have unbounded energy to "get-up-and-git" and bring things to pass. This is Fred Preston of Pinecastle, Florida, "The Plant Man."

Mr. Preston was born and reared in the State of Massachusetts. About six years ago he came from New York City to Pinecastle and engaged in truck farming. Four years ago he began commercial sweet potato plant growing. While Mr. Preston is not engaged on a very large scale in sweet potato plant growing (that is he would not be considered a great quantity producer) but what he lacks in quantity, **he certainly does not fail to make up in quality.**

Last season Mr. Preston shipped to his customers about THREE MILLION sweet potato plants from his plant beds, and those grown for him, at a retail price of $1.75 per thousand for most of them f. o. b. shipping point. His price will be the same next season.

His varieties are the Porto Rico, Yellow Jersey, Nancy Hall and Triumph.

There is not a doubt but that Mr. Preston has done as much as any other man in the South to educate the public up to a greater appreciation of sweet potato VARIETY. He has always grown only the choicest; and has done more than any other grower to

introduce the famous Porto Rico Yam into public favor.

To insure the best yield in both quantity and quality, Mr. Preston has his plant grounds well irrigated, using the famous Skinner system, which assures a crop of healthy, well grown plants "on time," enabling him to promptly comply with his shipping promises to his hundreds of customers, whose orders have been booked far in advance of the season.

We very heartily commend Mr. Preston as "a man on the job;" honest and upright in all his business dealings, and one that can "deliver the Goods."

MR. FRED M. PRESTON

MESSRS. T. W. BOWEN & SON, OF WALDO, FLA., TRUCKERS AND COMMERCIAL PLANT GROWERS.

As among the most successful commercial plant growers, we would call attention to Messrs. T. W. Bowen & Son of Waldo, Florida.

While these gentlemen are engaged in trucking and general plant growing, they make a specialty of the sweet potato plant.

With fifteen years of experience in sweet potato growing, and five years in the propagation of its plants, where the soil is suited and the climate adapted to its very best production, Messrs. Bowen & Son are in position to furnish their customers with the best seed sweet potatoes and plants that can be produced by any growers anywhere.

Not long ago it was our good fortune to visit the farm of these Northwestern men, who are more than making good on Florida dirt, and there we saw the most perfect potato plants, of the famous Triumph variety, that could possibly be produced. They were the prettiest things we have ever seen in the way of potato plants.

We will here state that the art of sweet potato plant growing is not so simple nor easily acquired, as some might think. Much study and experience is necessary to become an expert in plant growing; and then, if the requisites, proper soil and climate are lacking, our efforts are fruitless. Messrs. Bowen & Son know the plant business, and the adaptability of

Alachua County, Florida, in both soil and climate cannot be excelled for the sweet potato plant.

These gentlemen have their plant grounds well equipped with an irrigating system, which enables them to put any needed quantity of water to their plant beds at any time when nature might withhold her showers so essential to plant life, thereby, insuring the crop against shortage in production, which would be the inevitable result in the event of a drought, if no artificial means of watering were provided.

During last season Messrs. Bowen & Son shipped to their Southern trade about ONE MILLION sweet potato plants of the Triumph, Nancy Hall and Porto Rico Yam varieties at a retail price of $1.75 per thousand. Next season they hope to increase their yield at least one hundred per cent, as they have never been able to supply the demand for these plants.

We assure our readers that they will find these gentlemen upright and agreeable in their business dealings, and that the quality of their goods can not be excelled

PIEDMONT PLANT COMPANY.

R. P. DUVERNET, PRESIDENT; E. P. DUVERNET, SECRETARY AND TREASURER; GROWERS AND SHIPPERS OF VEGETABLE PLANTS, GREENVILLE, S. C., ALBANY, GA., AND ORLANDO, FLA.

Recently while in the State of Florida, it was the pleasure of the writer to visit the plant grounds of the Piedmont Plant Company near Orlando, Florida.

While at this time the potato plant season was just closing, yet, judging from the number of beds from which the plants of the season had been drawn it was plainly evident that the Piedmont Plant Company is doing a thriving business in commercial sweet potato plant growing from their Florida shipping point.

Here we received our introduction to the Cambell System of irrigating, and were favorably impressed.

This plant farm borders on a beautiful lake from which water is used for irrigating the plant grounds through the Cambell system of irrigation.

The Piedmont Plant Company was organized about six years ago to engage in the general plant business, and on January 1st. 1914, the company was incorporated with a capital stock of $15.000 which speaks for the enterprising spirit and ability of those in charge of the company's affairs.

From the very beginning, six years ago, the business of the Piedmont Plant Company has grown by leaps and bounds until last season from sweet potatoes alone they grew and shipped to their customers

throughout the South and Southwest about FOUR MILLION plants of the famous Nancy Hall, Porto Rico, Providence and Triumph varieties at a retail price of $1.75 per thousand.

And yet this firm is just getting ready, so to speak, to really do business in commercial sweet potato plant growing, as they are making preparations to bed for plants next season about six thousand bushels of sweet potatoes of the above mentioned varieties.

The company is going to do its very best to supply their demand for sweet potato plants, which they have never, so far, been able to do.

The Piedmont Plant Company long ago established, and yet maintains, a record of clean business dealing with a great host of patrons throughout the South and Southwest; and we heartily commend this firm to our readers as altogether reliable and trustworthy.

MR. J. R. DAVIS, OF BARTOW, FLORIDA, TRUCKER, COMMERCIAL PLANT GROWER AND GENERAL FARMER.

"Some of my crop produced 800 bushels per acre this season and there is not one cracked potato in 500. I set plants from this potato (Big Stem Jersey) the last week in February and shipped the crop July the 10th and there were over 500 bushels of selected potatoes, which sold for $1.75 per bushel in New York, by H. E. Schwitters & Son. Mr. Schwitters complimented the potatoes very highly and said he could have sold a car daily."

The above statement was made by one of the largest truck farmers and commercial plant growers in the South, Mr. J. R. Davis of Bartow, Florida, and is quoted from his 1914 catalogue.

This is, beyond a doubt, evidence conclusive that this gentleman thoroughly understands the sweet potato business. He knows where the markets are, varieties desired in the different sections of the country; when to plant, when to harvest and how to assort in order to get the highest possible price for his potatoes.

Mr. Davis has been a student of the sweet potato for the past fifteen years, and on his farm near Bartow he has made experiment after experiment with the sweet potato, and the results have been achievements, in both quantity and quality production of this luscious tuber, that are almost unbelievable to those who do not know J. R. Davis and something of his knowledge of the sweet potato.

Mr. Davis is a native of Georgia, but has for the

past 30 years resided in the State of Florida. For the past 20 years he has been a citizen of Polk County, during which time he has given much attention to truck growing and plant life.

We can truthfully say of this progressive Florida planter, that few are the men, in all the South, whose effort and ability have contributed so largely to the success of truck farming and commercial sweet potato plant growing.

We would have our readers understand that commercial sweet potato growing is merely a side-line with Mr. Davis; but notwithstanding this fact, last season he grew about 15,000 bushels of sweet potatoes and produced from his beds about 7,000,000 potato plants, which he shipped to his customers all over the South and Southwest at a retail price of $1.50 per thousand.

His varieties are the Nancy Hall, Golden Beauty, Porto Rico, Big Stem Jersey and Triumph; and of these, his leaders are Nancy Hall and Big Stem Jersey.

Mr. Davis is certainly the most extensive intensive farmer that we have ever known. Besides his great fields for the growing of corn, oats, potatoes, etc., he has 100 acres under irrigation devoted entirely to rotation truck crops and plant growing.

This gentleman is not only a wizard of the soil, but is also an author of wide repute, having written several books on different phases of the farming subject. "Sweet Potato Growing in the South" and "Up-to-date Truck Farming in the South" are among his achievements with the pen.

Recently while in conversation with Mr. Davis he authorized us to inform our readers that he would

be "on the job" again next season at the same "old lick". 7,000,000 potato plants for his hundreds of loyal customers throughout the Southern States.

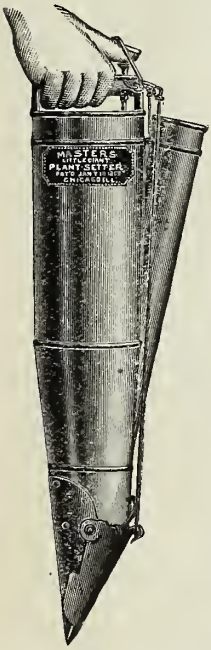
We assure our readers that they willl find Mr. Davis ready, anxious and able to carry out his contracts with his customers, and a very pleasant fellow to do business with.

SET YOUR SWEET POTATO PLANTS

—WITH—

Masters' Rapid Plant Setter!

Used by thousands of "up-to-date" sweet potato growers last spring with great success. It is the coming tool for this work. . . . .



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Sure work. A full stand of plants an no blanks.

NO STOOPING,

NO LAME BACKS.

Easy to operate and pleasant work.

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